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THE CONDITION OF AGRICULTURE IN THE UNITED STATES AND MEASURES FOR ITS IMPROVEMENT

WINE INSTITUTE
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SAN FRANCISCO, CALIF

THE CONDITION OF AGRICULTURE IN THE UNITED STATES AND MEASURES FOR ITS IMPROVEMENT

A REPORT BY THE
BUSINESS MEN'S COMMISSION
ON AGRICULTURE

Published Jointly by

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38

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National Industrial Conference Board, Inc.
and
Chamber of Commerce of the United States of America

The undersigned, the members of the Business Men's Commission on Agriculture, appointed by you to study the condition of agriculture in the United States and to suggest measures for its improvement, herewith submit the Commission's Report. In accordance with the terms of its appointment as a body independent of the opinions and policies of the sponsor organizations, the Commission assumes full responsibility for the conclusions and suggestions contained in its report. In face of so vast, complex and important a problem, the views of the individual members of the Commission in regard to all particulars and details of the report naturally could not be in every respect identical, but the findings and recommendations herein contained represent the consensus of the views of the Commission as a whole regarding the fundamentals of the questions which it was charged to consider.

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New York City
November, 1927

CONTENTS

PART I: THE APPROACH TO THE PROBLEM AND SUMMARY OF CONCLUSIONS

PART II: THE AGRICULTURAL SITUATION

CHAPTER PAGE

I. THE PRESENT STATUS AND TREND OF AGRICULTURAL CONDITIONS 43
The Trend of Agricultural Prices 44
The Long-Time Trend of Relative Prices and Costs . 47
Relative Incomes of Agricultural and Urban Workers 56
Decline in the Farm Population 59
Increase in Mortgage Indebtedness 61
Failure of Farm Enterprises 62
Increase in Rural Bank Failures 63
Tenancy 64
Conditions in the Various Branches of Agriculture 65
Wheat 66
Cotton 67
Corn and Oats 69
Hogs 69
Beef Cattle 69
Sheep 70
Dairy Products 70
Truck and Fruit Crops 71
Poultry and Eggs 71
Conditions in the Several Agricultural Sections . . 72
The Immediate Prospect 72

II. FACTORS MAKING FOR AGRICULTURAL DEPRESSION . 74
Post-War Deflation 74
Increase in the Tax Burden 79
High Interest Rates 81
Increase in Transportation Costs 83
High Cost of Distribution of Farm Products . . 86
Restriction of Immigration 88
Shift to a Creditor Status in International Transactions 94
Tariff Policy 95
Decline in European Demand 98

CHAPTER PAGE

Decline in Domestic Consumption 98
Over-Expansion of Acreage 102
Increasing Yields per Acre and per Worker . . 105
Depletion of the Soil and Erosion 105
Increase in Crop Pests 108
Low Gross Return in Agriculture 108
Increasing Commercialization of Agriculture . . 109
Increasing Instability of Return in Farming . . 110
Lack of Organization and Management in Agriculture 116
Slow Adjustment of Agriculture to Economic Requirements 118
Rapidly Changing Comparative Advantage of Agriculture and Manufacturing 122

III. THE NATURE OF THE AGRICULTURAL PROBLEM AND THE AIM IN AGRICULTURAL POLICY 127
The Trend of Agricultural Development . . . 130
The Problem of Self-Adjustment in Agriculture . 145
The Social Aspects of the Agricultural Problem . 151

PART III: MEASURES FOR AGRICULTURAL IMPROVEMENT

IV. INCREASING AGRICULTURAL INCOME BY LEGISLATIVE ACTION 161
Objections to Price-Raising Agricultural Legislation. 163
Improvement of Farm Income Through Tariff Readjustment 169

V. STABILIZING AGRICULTURAL INCOME BY GOVERNMENTAL AID 176
The Stabilization of Farm Prices and Income . . 177
Stabilization of the General Price Level . . . 187

VI. INDIVIDUAL SELF-HELP 189
Limitations of Self-Help. 189
General Suggestions on Farming Methods . . . 191

VII. COOPERATION 195
Cooperation in the Production Process . . . 196
Cooperation in Marketing 202

VIII. UTILIZATION OF THE LAND 207
Crop Land 207
Pasture 208
Forest 209

CHAPTER PAGE

Land Classification 215
Information Service to Landseekers 217
Closer Settlement Areas 218
Guidance of Population Movement 223
Negative Action in Land Utilization 225
Reclamation 225
Overstimulation of Land Settlement . . . 226
Immigration 228

IX. TAXATION 229
Incidence of Farm Taxation 229
Suggestions for Shifting the Burden of Farm Taxation 232

X. RURAL BANKING AND AGRICULTURAL CREDIT FACILITIES 237
Long-Time Agricultural Credit 237
Short-Time and Intermediate Credit 238
Country Banks 238
Country Bank Associations 240
High Interest Rates 241
Federal Intermediate Credit System . . . 243
Agricultural Credit Corporations 247

XI. TRANSPORTATION AND DISTRIBUTION 255
Freight Rates 255
Waterway Development 257
Distribution Costs 263

XII. RESEARCH AND EDUCATION 267
The Need for Agricultural Research 267
Industrial Uses of Farm Products 268
Extension of Economic Services 271
Education of the Farm Youth 272

LIST OF TABLES AND CHARTS

TABLES

Table		Page
1.	Purchasing Power of Farm Commodities, 1909–1914	45
2.	Indices of the Prices of Agricultural and Non-Agricultural Commodities and of the General Price Level, 1900–1926	49
3.	Index of Output per Worker, 1919–1925	54
4.	Indices of Productivity of Labor in Various Industries, 1914–1925	55
5.	Comparison of Agricultural Earnings with Earnings of Workers in Other Occupations, 1910–1925	56
6.	Farm Population, 1920–1927	60
7.	Increase in Farm Mortgage Debt for Owner-Operated Farms, 1910–1925	62
8.	Prices of Agricultural Commodities in Relation to the General Price Level, 1913–1927	75
9.	Index Numbers of Prices Received by Farmers for Their Products, Farm Wages, Composite Costs, and Farm Taxes, 1914–1925.	80
10.	Index Numbers Showing Changes in Railroad Freight Rates on Fifty Representative Agricultural Products, 1913–1925	84
11.	Index Numbers of Full Cargo Ocean Rates, 1911–1926	86
12.	Percentage of Foreign-Born to Total Number Employed in Selected Industries, 1920	89
13.	Apparent Consumption of Wheat Flour and Corn Meal, 1889–1923	100
14.	Consumption of Meat, 1907–1926	100
15.	Number of Horses in the United States, 1910–1925	101
16.	Annual Loss of Plant Food by Removal of Staple Crops	106
17.	State and Local Taxes, 1922–1925	230
18.	Objects of Government Expenditure, 1924–1925	233

CHARTS

Chart		Page
A.	Trends of Prices of Agricultural and Non-Agricultural Commodities in the Periods 1900–1914 and 1914–1926.	50
B.	Ratio of Farm Product Prices to Non-Agricultural Prices, 1875–1926	52
C.	Ratio of Farm Product Prices to Non-Agricultural Commodity Prices, 1837–1926	53
D.	Changes in Prices of Agricultural Commodities, Wages, and Retail Prices of Food, 1914–1926	76
E.	Prices and Dollar Yields per Acre for Wheat, 1870–1926.	112
F.	Prices and Dollar Yields per Acre for Cotton, 1870–1926.	113
G.	Prices and Dollar Yields per Acre for Corn, 1870–1926 .	114
H.	Changes in Per Capita Volume of Exports and Imports of Agricultural Products, by Five-Year Moving Averages, 1882–1925	123

PART I: THE APPROACH TO THE PROBLEM AND SUMMARY OF CONCLUSIONS

WINE INSTITUTE

THE CONDITION OF AGRICULTURE IN THE UNITED STATES AND MEASURES FOR ITS IMPROVEMENT

THE APPROACH TO THE PROBLEM

THIS Commission was organized by the joint action of the National Industrial Conference Board, Inc. and the Chamber of Commerce of the United States. Such cooperation was a natural result of the activities in which these two organizations had been engaged in pursuit of their inquiries into the agricultural situation. The Conference Board in 1926 had published "The Agricultural Problem in the United States." This volume contained the results of an extended research into the question. It was not only well received, but did much to satisfy the farmers of a determined purpose on part of industry and commerce to aid in the solution of a problem which had at last come to be recognized as a common cause. For even a longer period the National Chamber of Commerce had held regional meetings in different parts of the United States, to which were invited farmers, business men, bankers, economists and others to exchange views upon the same subject. The discussions at these meetings were given wide circulation, and did much to prepare the public for a sympathetic attitude toward the Commission's undertaking.

The two bodies jointly provided the very considerable fund which was required to meet the expenses of the Commission's inquiries. The Commission was free at all times to call upon them for any information which they had secured in the course of their research. All of this could be readily accomplished, not only because both bodies were prompted by the same purpose, but because in their boards there is at least a measure of common representation. This Commission, however, by the terms of its appointment, is in all respects

independent of the two organizing bodies, and sustains no relation of authority or responsibility to government, national or state.

Therefore, whatever the reception of the report may be, the responsibility is altogether that of the Commission. If the outcome has merit, credit should go to the organizing bodies for having launched the undertaking. Should the result be otherwise, their disinterested purpose will, no doubt, triumph in another form.

So charged with this undertaking, the Commission secured the assistance of an economic adviser in the person of Professor Frank D. Graham, of Princeton University, who is not committed to any particular agricultural theory, who has attended the hearings and conferences, and who assisted the Commission in formulating its report. In addition, the Commission has been given aid with unfailing courtesy, often at the cost of time and convenience, by economists, business men, bankers, educators and, above all, farmers. These men gladly met the Commission's invitations to attend and to participate in its hearings, held at such points as it was thought would best suit their convenience. This circumstance alone is indicative of the widespread and serious interest in a problem which may well be said to have become irrepressible.

Hearings were held in New York, Chicago, Minneapolis, Des Moines, Memphis, Kansas City, Dallas, Atlanta, Greenville and Washington, D. C., during the period from December 20, 1926, to April 20, 1927. Witnesses who appeared before the Commission came from the following states: Alabama, Arkansas, California, Connecticut, Delaware, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, Wisconsin and Washington, D. C. In all, 170 witnesses were heard.

It is true that since the appointment of the Commission natural conditions have in some measure relieved the particular peril that was then uppermost in the public mind. In the immediate future unfavorable prices, due to a surplus, may not

threaten—at least not in certain crops. But that provides no real answer to the fundamental question. Natural calamity, such as floods and weevil, is at best a poor cure for prosperity's burdens. The change may, however, render it somewhat easier to discuss the general problem on its merits, free from the embarrassment of an immediately dominant condition.

The Commission has approached its task with a sympathetic interest, for it has no ulterior purpose to serve, political or economic. It has drawn upon experience wherever it could be found; and its inquiries have necessarily covered ground that has been gone over many times. The Commission, of course, has no thought to have discovered unrecognized conditions, or to suggest novel remedies. As other discussions and deliberations leave no doubt of the purpose to face the problem, so it expects to give proof that serious concern has taken the place of apparent indifference. Success in that respect alone would be worth the effort. The Commission was bound to encounter disagreement on many points; but it indulges the hope that its report may serve to center public attention upon the essential points of the problem. Confirming the results of the labors of other agencies, commissions and persons, agreeing or disagreeing, as the case may be, with conclusions already reached, and relying largely upon the impressions received during its hearings, the Commission aims and hopes to invite a challenge to the truth, and to help further a discriminating judgment.

Early in the inquiry the Commission came to one mind about one general fact, which in itself offers a chief, if not an insuperable, obstacle to all idea of a single, clear-cut measure of relief. It may be true that the farmer's problem presents, on the one hand, a universal condition which admits of general remedial measures; but it seems equally clear that this problem in other respects is as complex in character as the sections of our country and the composition and standards of our people are varied. For a situation at once so comprehensive and complicated there is no one panacea. It is far too intricate for so simple and easy a solution. Unquestionably there is an answer, but that answer should not be sought in the vague and extravagant promises of this or that slogan. On the contrary, it must be found in

the adoption of a comprehensive agricultural policy, the success of which will depend upon the generous and intelligent cooperation of private initiative and state and Federal agencies.

An appreciation of the situation presupposes some understanding of the real difficulties that beset the farmer, of his actual place in our economic system, his true relation to the body politic, and last, but not least, the state's function in the preservation of the farmer's chief dependence—the land. Such a picture is not easy to draw. In so far as it has been successfully presented, the greatest difficulty with which the Commission has to contend may be said to be overcome; for at the inception it is more essential to gauge properly the complicated grievances than it is to experiment with this or that new form of corrective measure.

Assuming that the essential facts have been ascertained and are understood, it is commonly accepted that the farmer's problem may be approached and solved like any other business, industrial or economic question. This, it is submitted, involves a fallacy, and if acted upon must invite confusion worse confounded. Elements of business are ever present, it is true, and business methods must be observed; but the pursuit of agriculture presents other features so peculiar, indeed so unique, that the failure to take account of them must lead to gravest miscalculation.

In the beginning the farmer's chosen aim was to provide the necessaries of life for his own household. He was the outstanding example of self-dependence in modern society. However far he may have departed from this original rôle to engage in the fortunes of business, he has nevertheless, generally speaking, not abandoned his primary object, to provide for his own family. He alone is at once proprietor and wage earner—a position of mixed interests that offers a stubborn challenge to both the economist's inquiries and the legislator's programs. In our country the great areas of virgin territory and the unrestricted opportunity for migration have accentuated this native individualism. We have not even the memory of communal life such as is known in England with her tradition of the manor court, and in Germany, France and other countries of Continental Europe

with the social life of their inherited village systems. It is correspondingly unsafe to draw for our guidance solely upon the past experience or present customs of other peoples. In a word, we still have, on the one hand, the farmer citizen, proprietor of a distinct interest, whose independence it is the part of sound policy to preserve. On the other hand, this farmer owns the soil, in the preservation of which, by aid or control, the public has a peculiar and perhaps more immediate interest than is true of any other kind of property. Obviously, measures for relief can not be cast in the common mould. The individuality of the person and the public interest in his property present a conflict without parallel in the field of legislative action or economic counsel. It constitutes a challenge to modern statesmanship; and whatever else may be true, it is clear that the solution will not be had upon conventional lines. Indeed, it is safe to say that there is no one answer to one common dilemma, but there must be many answers to different phases of one general condition.

The situation which we now have to meet has crept upon us without full or timely appreciation of its significance to our system in its entirety. Agriculture was left largely to the mercy of *laissez faire*, while governmental support went to the building up of commercial and industrial enterprises. To all intents and purposes one was taken for granted, while the others were fostered and nursed. It may be admitted that the triumphs which the Department of Agriculture has achieved since its organization in furthering and protecting the pursuit of agriculture, are quite equal to those of the Department of Commerce in the promotion of industry and business. The pursuit of agriculture, however, has at no time enjoyed protection such as was extended from the very beginning to commerce and industry through national legislation. It was, therefore, long after the natural evolution of economic relations had been shifted—even dislodged—by direct legislative interference, that we came to suspect the inevitable effect upon the system as a whole. Only now have we come to recognize the need of more equitable conditions, if agriculture is to sustain its position of relative importance in the entire system.

That some relief is urgent no one will question who has taken the pains to inquire. It may be accepted that there are some complaints for which there is no relief; that some remedies now suggested are impracticable, and that there are many grievances which depend for correction solely or in part upon the farmers themselves, acting in concert or individually. But it is equally clear that there are some burdens and inequalities that can be alleviated or removed only by outside aid, private or public, or both.

This is not the place to more than outline or suggest these several phases. But so much may aid a better understanding of what the Commission undertook to do; what in its opinion are the actual conditions; where the mere statistics may fail to register the whole truth; where the legislator's hopes may necessarily fall short of fulfillment; and where, finally, in its judgment, relief may be intelligently and practically given.

In some measure at least the common contrasts of fortune and failure are reflected in the farmer's life—ranging all the way from a state of abject helplessness to a position of undaunted challenge for every kind of vicissitude, natural, economic or political. Without question there is a considerable body of persons who barely struggle along on farms. This is true even in the North; and is more pronounced in the South. In a sense this is an inherited condition. Escape from exhausted to more promising acreage is no longer possible. The slogan "Go West" has become an echo of the past, and the farmer has come to face his ultimate problem. The force of industrialized competition is felt more and more keenly; and particularly the negro farmer, in his struggle against these and other exacting tests, is paying a heavy toll. There are, therefore, many toilers on farms who, if subjected to ordinary business standards, would be eliminated from the reckoning. But their test is not that of business. The relentless competition of improved methods of farming may spell their ultimate doom; but, contrary to the rule of ordinary business, many if not all of them are able to continue the struggle of bare existence without quite going out. They constitute a more or less perpetual factor—a miserable support for themselves and a disturbing menace to the success of others—that must always be counted in the estimate

of production and consumption and in any proposed legislation. Attempts to aid them are unpromising, but they present a serious element, particularly in the consideration of any general governmental relief.

Then there is the great body of farmers whose efforts meet with only moderate or indifferent results, and whose struggle between failure and success just about keeps them at the point of a livelihood. These are the men and women for whom intelligent aid would mark the turning point. They can be saved by relieving them of some of the burdens which, as this Commission thinks, rest unfairly upon them; and by giving them the benefit of a broad agricultural policy, such as is outlined in the report.

Finally, there is the larger body of farmers who sustain themselves in fair comfort and with some profit, in spite of inevitable crop failures, incalculable surplus crops, and all the other disadvantages and disappointments that so often work havoc with less fortunate or more unwise tillers of the soil. To these men and women it is impossible to listen without feeling greater confidence in our country and gaining a profounder understanding of the lure of the farm. These are the men and women who scout the extravagant promises of legislative cure-alls; and whose suggestions of what may and ought really to be done, therefore, come with more persuasion. When a man, with the temptation of movies and automobiles in mind, half apologetically says, "You can not run a farm on a Ford," he points in simple words, but with unerring insight, to one cause of some failures on the farm. Search for pleasure, as well as desire for betterment or natural ambition, or surrender to the force of entirely wholesome elimination, may prompt the change from land to city. When another farmer, after giving evidence of profitable farming and wide reading, closes his absorbing statement to the Commission with the simple comment, "You can not be a good farmer unless you take time for contemplation," he reveals the lure that will not let strong men and women yield the land, and incidentally points to a truth of universal application. Great importance should be given to the reappearance of the small, well-ordered farm, whose proprietor makes no complaint, because he has learned to

combine old-time freedom and self-support on the farm with modern standardization of products in easy reach of a ready market. To such an influence may be attributed the very significant revival of the New England farm, that had for so many years been forced to yield to the competition of cheaper and richer land, or to the triumph of quantity over quality of product. U. S. Department of Agriculture Bulletin No. 984 gives in simple form the story of the community of Belleville, New York, for more than a century. It reads more like a romance than an official report. There may not be so many parallel cases; but in any event it is a demonstration of what can be done, and it justifies the hope that it may be an illustration of a trend in our time.

Without thought of discouragement, readily describing their own success and sometimes shortcomings, cheerfully testifying to the achievement of others, the more successful farmers have with dispassionate frankness pictured to the Commission the unfair pressure upon agriculture, as well as the opportunities for relief as they see them. It is true, therefore, that the most representative farmer is far from being an alarmist; and is most unwilling to admit his sole dependence upon legislative relief. But it is equally true that in his opinion the farmer's position may and should be strengthened. While, therefore, immediate political pressure undoubtedly comes from a large body of the less successful farmers, it can not be questioned that the best of them advocate measures that would in some degree redound to the improvement of the entire agricultural situation.

The Commission is therefore concerned with suggestions of remedies for a general condition that range all the way from the accustomed admonition for self-help to improved agricultural training and education, relief from disproportionate tax and similar burdens, and, finally, the adoption of affirmative economic and administrative programs, with or without official sanction and aid. In the face of the actual situation, it is impossible to rest with the complacent, almost traditional disposal of the question. To tell the farmer what Denmark and other countries on the Continent are doing, is interesting and no doubt instructive up to a point; but conditions are so different that it must at least be questioned

whether a comprehensive lesson for us can be drawn from their experience. To refer the farmer to the doctrine of supply and demand serves no better purpose, because the operation of that rule has been drastically disturbed by the industrial policy of our government. *Laissez faire* is of the past, and the practical question is how far shall we be driven in the other direction. As has been said, the true province of legislation probably lies somewhere between *laissez faire* and price fixing—neither extreme is to be recommended. But the farmer is largely a wage earner; and we have undertaken to regulate wages in some occupations; just how, then, is the difference between protection against competition and protection of farmer's wage scale and his products to be defined and expressed? The line must be drawn somewhere. If agitation for price-fixing legislation is to be avoided, may it not become necessary to revise our economic policy? If we are unwilling or unable to do that, will we not be challenged to find for the farmer an economically true equivalent of industrial protection? Is it not obvious that for agriculture in years of abundance protection alone can not operate successfully? If, then, the policy of protection is to stand, the pressure for like protection, although by varying measures, for the whole people's activities, would seem to be altogether natural. It is assumed, therefore, that no consideration of the farmer's problem can be adequate without a discussion of the tariff policy in its bearings upon the prosperity of the entire nation.

No doubt constitutional objections hold true with respect to some proposed measures, or at least to particular features of them. Ways have, however, been found to adapt fundamental principles to so many financial and industrial exigencies that these precedents may be invoked to solve the very pressing agricultural dilemma. Indeed, the government's province to conserve applies with peculiar force to agriculture, because the public's inherent interest in the preservation of the land and its products is at least as fundamental and clear as is true of any other kind of property interest. But assuming that constitutional conditions may be satisfied, the question of the feasibility of a particular proposal has by no means been answered. For illustration, the Commission

can not recommend certain schemes for influencing prices, although they in many respects are attractive, and some have the great advantage that they offer preventive rather than curative relief. The authority of the government to engage in such undertakings at all may well be doubted; and the plan to carry them out by assessing farmers as a class, instead of drawing upon the general treasury, is perhaps their weakest point; but apart from that question, the Commission does not recommend certain of these proposals in their present form, because in its opinion they would not be practically effective.

All these matters are more fully dealt with in the report. In the meantime, suffice it to say, on the one hand, that no unrest as formidable as that witnessed among certain groups of farmers in recent years can be sustained without a real grievance; and, on the other, that sugar-coated political pills will provide no lasting relief for an ailment which has in some phases become more or less chronic.

In the report, consideration is given to the many suggestions for relief, legislative and otherwise, that were brought to the attention of the Commission. Many of them appear to have merit, and none of them are new to those interested in the general subject. Broadly speaking, a certain classification is perhaps possible; but upon inspection it will be found that actual relief generally presupposes a high degree of cooperation between individuals and government—local, state or national. For illustration, a mere glance at the list of varied proposals will suffice.

The simple and rather obvious counsel against wasteful methods will often fail for lack of personal initiative and opportunity for ready comparison. At the very threshold, the advice of the expert comes into play. The employment of improved machinery, the timely introduction of electricity, sanitary regulation, housing and like progressive methods—all call for the help of experienced counsel and for well-considered programs. More important still becomes that counsel when it comes to the diversification of crops, with a view to preserving the soil, and at the same time to guarding against loss through failure or undue abundance of any particular crop. The treatment of land under cul-

tivation and the problem of marginal lands involve great experience and judgment. More and more pressing becomes the demand for trained advisers on whose counsel the farmer must rely and who have to be supplied by private enterprise or the government. Cooperative movements which look to standardization of crops and more advantageous marketing may depend more immediately upon the farmer's own initiative; but here, too, private aid may prove to be effective, and certainly the state may give direction and stability by providing suitable authority and conditions. As the program for education widens, the extent and character of the school curriculum are presented for decision. How far shall the course of study follow that of the city before the state university is reached; where is the point of departure; and is there merit in some of the foreign systems that provide for or even prescribe special agricultural instruction in the primary school? The curriculum of city schools may present similar questions. Here the authority of the state is at once more directly invoked. Still more is this true of the regulation of sanitary conditions, which are virtually beyond the control of the individual, and always of immediate concern to the general public.

The fiscal situation, both the levy of taxes and the employment of the funds, in the opinion of the Commission, deserves very serious attention. In at least many states something of a readjustment is called for, looking to a larger responsibility on the part of the state for interests that have been treated as local, and particularly to a larger expenditure for the maintenance of activities that are obviously of common concern. Again, the interest and responsibility of the state is most drastically shown by the late history of rural state banks. With praiseworthy exceptions, the system has furnished ground for very grave criticism. That the remedy lies in the power of the state is clearly proved by the great discrepancy in the experience of different states. If two states are similar in character, and one is overwhelmed by bank failures, while the other escapes almost entirely; or if one has a modern and the other an antiquated taxing and school system, or if, in one, banks have encouraged loans on speculative values, and in others

have held to land values tested by yield, the moral is easily drawn. Somebody has attended to public affairs, and somebody else has been busy with politics; which should in itself be suggestive to the farmer who largely controls the state governments. But assuming that all states could be well administered, there is still an obstacle in the way of achievement or of correction of some of the subjects under discussion. The political boundaries do not conform to the industrial and agricultural relations. In some degree, state pride may offer as stubborn an obstacle to a successful solution as misdirected nationalism may to the realization of international peace. However, the answer to such a condition can not be forced, but must be left to the normal development of intelligent self-interest. Even then there are many phases of the problem which can be entrusted only to the national government; although it should be borne in mind that no influence for centralization of power in Washington has been so potent as the inability or unwillingness of state governments to meet the demands of their own citizens, or to join in cooperative understanding for the benefit of the population of sections or states or the whole country, as the case may be.

Such subjects as transportation and rates, waterways, power development and flood control are virtually in exclusive control of the national government upon well-grounded principle. Reclamation, forestry and like subjects are under the same control with distinct limitations. The individual state is not excluded and can not escape responsibility, as is well exemplified by the advanced programs of some of the states. Beyond that, the national government has assumed the enormous task of research, embracing soil, crops and by-products, of collecting and distributing information, giving guidance and support to financial institutions calculated to aid the farmer, and protecting agriculture against ravages. Here too, state institutions, particularly the universities, are rendering great aid. All this demonstrates the inherent interest which government recognizes in the general welfare, and particularly in the conservation of the soil and its products, and of the man and woman on the farm. This principle once admitted renders it difficult to

set a limit to possible future activities. Young domestic industries have become dominating international forces. For a long period, no doubt, agriculture gained by reflected prosperity; but now it has fallen behind, until it appears to need the aid that was given to young industry. What shall our policy be from now on? Shall we expand or contract? It must be one or the other, if we are to grow and prosper consistently and equitably. The principle, whatever it is, must by one means or another be universalized, not in kind but in effect. As has been said, the country can not march with one leg crippled. It is too clear for argument that the farmer can not be counseled to cut down his man power or soil capacity, in order that he may escape the dangers of his own achievement, and survive the consequences of his own success. It is equally clear that if the farmer is advised and urged in the public interest to carry his opportunities to the highest point of development, then it must be for that public, through its government or otherwise, to devise some method for his ultimate security. Some means must be found to ameliorate the consequences of destructive crop surpluses and disastrous price fluctuations. It is true enough that natural economic forces must be looked to; but they must be harnessed; and that harness must be so designed and adjusted as to enable all the forces of the entire body politic to pull together. There appears to be reason in the suggestion, therefore, that the executive authority to adjust tariff schedules be expanded and liberally employed to give us the benefit of a larger experience.

There is no denying that, apart from the question of mere authority or power, our form of government is ill adapted and has shown little capacity for the administration of many suggested measures. We can not always command the expert with experience and independence, and the danger of overcentralization is ever present. The more reason why private enterprise that has made such enormous contributions to the common weal, especially by way of research and endowments, should with or without official cooperation accept the challenge, if necessary to the extent of inviting international cooperation. We dare not forget what has been done for financial and industrial development. Why

not for agricultural interests? In England even now a non-profit-making wheat trust is under discussion; and is it clear that there may not be wisdom in the proposal? More than that, there is serious discussion in that country of a scheme to create a public agency for protection of the price of farmers' products, which may at least serve as fair warning to us.

No doubt every member of the Commission has taken with him personal impressions and reflections; and these will vary in some respects. But upon essentials, it is safe to say, the members are unqualifiedly at one. They have seen and heard the real farmer, and they are in no danger of sharing the patronizing sympathy which is so liberally broadcast for the farmer's consumption. On the contrary, they feel that the farmer's cause is their own, from both the humanitarian and the economic point of view. They are forced to the conclusion that the accepted economic measures do not fit, at least do not cover the farmer's case; and that this situation presents a new challenge to economic and political advisers that can not be evaded or met with slogans. Agriculture has been given an abundance of surface treatment, and is too often offered something like first-aid doles to allay the rising suspicion of the toiler on the land.

But one very important fact must not be overlooked in the consideration of the problem. All comparisons of the farmer with those engaged in other enterprises have necessarily been made on the basis of figures; material profit has been the sole test. This does not present an entirely true picture; any more than the mere number of farmers, apart from their character, at a given time provides a safe standard for comparison with another period. Such statistics are no more exhaustive of the problem than it is safe to judge the effect of immigration restriction by the mere comparison of the number of aliens admitted at different periods under varying statutes. The numbers are important, but the character of men and women admitted or rejected is just as important to a complete understanding. How have the late arrivals borne themselves in the face of the ordeal which is now the subject of our inquiry? How has the fever of land speculation and the struggle for material equality affected them, and have they been more content in the steady pur-

suit of farming as such? Is it not possible that our latest policy is driving men and women who were once a national asset to other countries of virgin soil, there to give immediate strength and perhaps ultimate stability to our competitors? Similarly, a bare comparison between the wage scale of industrial workers and the wage return of farmers tells only part of the story. Much of the farmer's burden is indirect and cumulative, in that his increased costs accentuate his reduced income.

Mere statistics give no conclusive answer to such questions. In truth, the farmer has some advantages which he, better than any one, knows how to value, and which in any fair estimate must be taken to reduce his competitors' actual advantage over him. These intangible benefits it is impossible to gauge; but we must ask ourselves how far the modern trend is calculated to affect them; and how far the aims and the measures of industrial promotion or protection may be safely applied to agricultural undertaking. Is there a limit to the industrial regulation or promotion that wholesome farming can absorb? If agriculture is to be entirely industrialized, and if success or failure is to be gauged by the material outcome alone, then the farmer, as we now visualize him, may be doomed. It may mean the abandonment of the proud rôle of the independent proprietor, unless some profit-sharing scheme akin to the industrial plans should attend the change. At present the farmer's unique privilege is to combine a way of living with the chance for material profit. A degree of success in both is essential. The first aim can not be surrendered to the second ambition without revolutionizing the undertaking and surrendering what has seemed dearest to the farmer's heart. His pursuit guarantees a freedom of conduct and a self-direction of the aims and joys of life that is denied to every other occupation. His privilege exacts its own price. The farmer can not successfully insist upon his unique freedom, and at the same time challenge the material advantage of his less favored fellowman who in turn pays his price for his peculiar advantage.

When all has been said and done, the farmer himself must remain the chief guardian of his own salvation in face of change. Modern invention has brought within his reach

many advantages, such as the automobile, the telephone, electricity and agricultural machinery. The demands for comfort, health, education and entertainment have correspondingly risen; the chance to travel and to obtain his information first hand is largely within his reach. But it is for him to attune these advantages to the primary aim of his chosen life, and not to permit them to lead him into unwholesome competition for mere material profit, or to yield to the temptation of ease and amusement, worst enemies of urban life. His is a proud heritage, last bulwark of true democracy. As a sane conservative, it is for him to hold his ground in this never ending evolution. Others may and should, in their own interest as well as in his, render aid; but in the last analysis, it is for him to meet the modern challenge, and preserve the ideal of American manhood and womanhood.

In its general character the farmer's problem is universal. It is no more acute with us than it is in other countries, only the particular economic manifestations vary. Everywhere modern development has put agriculture under pressure; and everywhere the struggle is on to preserve the integrity of the farmer. In "Politics and the Land," after making an economic survey of the field very much in the manner and with the result of this Commission, Cecil Dampier-Whetham, in concluding, uses this language[1]:

> "Even with stable prices it is not likely that, in an otherwise wealthy country like England, farming will ever be profitable enough to buy men of ability, character and courage. But our agriculture does not depend on economic motives alone. It can seldom offer riches, but it can promise a life full of natural interests."

And, again:

> "Ignorance may injure England's pleasant land, but some of its joys will remain so long as men till the soil, and seed time and harvest, and cold and heat, and summer and winter, and day and night do not cease."

That much is true as well of Continental Europe and it is true of us. That which is most precious to the farmer is

[1] Cecil Dampier-Whetham: "Politics and the Land"; Cambridge University Press, 1927, p. 207.

also precious to us—the question is how to preserve it for both—how to aid without destroying.

Here as everywhere the watchword is cooperation. But if this is to avail it must be saved from becoming a platitude. To be effective it must inspire the whole body politic with the will to serve the common cause. That means for the national government a broad economic policy, with the farmer's interests as an integral part, wisely administered and generously adjusted to state and private activities. For the states it means a revival of the sense of authority and responsibility, both of which have been sadly neglected. Citizens have lost fair opportunity; state authority has been weakened by disuse, and the inducement to national aggrandizement of power is well nigh irresistible. The demand for common relief is so natural and just that there will be no escape from further centralization, unless the states respond by the adoption of progressive policies and learn to subordinate their more or less accidental political divisions to the needs of a general economic scheme. The dominating position of industry and business implies an inevitable responsibility. The farmer is far more than a customer. He should not only be immune from the discouraging fate of mere exploitation, but should be made the recipient of counsel and aid born of experience. Nowhere is a wise relation of mutal confidence and interest more peculiarly in place; and nowhere could the influence of industry and commerce become more potent; for effective cooperation means to bring to bear upon the problem those very humanitarian forces which it is now sought to save for the farmer himself.

Based upon these general conceptions of the problem and approaching the subject from all angles which offered prospects for a sound solution, the Commission reached its conclusions and prepared its report, which is summarized in the pages immediately following. The supporting facts and a full discussion appear in the succeeding chapters.

SUMMARY OF CONCLUSIONS

Any serious and careful consideration of the situation and trend of American agriculture makes it clear that in relation to it the United States is confronted with a question of fundamental national concern and of permanent importance to the American people. The specific problems which face individual farmers, the different branches of the industry and the several agricultural sections of the country are numerous, varied, and constantly shifting; but beneath all these there lies the fundamental question of the maintenance, improvement and wise utilization of the irreplaceable land resources of the nation, which must remain the basis of the prosperity and even of the very existence of our people.

Agriculture is not merely a way of making money by raising crops; it is not merely an industry or a business; it is essentially a public function or service performed by private individuals for the care and use of the land in the national interest, and farmers in the course of their pursuit of a living and a private profit are the custodians of the basis of the national life. Agriculture is therefore affected with a clear and unquestionable public interest, and its status is a matter of national concern calling for deliberate and far-sighted national policies, not only to conserve the natural and human resources involved in it, but to provide for the national security, promote a well-rounded prosperity, and secure social and political stability.

The Agricultural Situation

The evidence is clear that American agriculture has undergone a prolonged and trying readjustment to post-war conditions, in the course of which those engaged in it have suffered seriously in their relative economic prosperity in comparison with those engaged in other fields. On the human side it has been deprived of the energy, experience, and knowledge of many thousands of farmers who have lost their resources and have been persuaded or compelled to leave the farm for other occupations, while the land resources of the nation have been impaired by neglect and by wasteful ex-

ploitation under the pressure to which those who have remained in the business have been subjected.

Since the war the prices of farm products have persisted in an uneconomic and unfavorable adjustment to the general scale of prices of other goods and services. Though the relative price of agricultural products has increased, the costs of production in agriculture have risen or tended to remain high in comparison with the agricultural income, so that the readjustment of price relationships alone does not assure real improvement in the relative economic position of agriculture as a whole. The output per worker engaged in agriculture has risen greatly, but not so fast as in other industries, so that the relative economic advantage of workers in other fields has tended to increase.

Production in some of the important branches has been slow in readjusting itself to normal demand after expansion during the extraordinary emergency conditions of the war, while the foreign market for farm products has been depressed by the low purchasing power of European nations, by the stimulation of their own agriculture, by their internal and external indebtedness, and by the post-war restrictions upon international trade.

The disparity between urban and farm incomes has emphasized the disparity in standards of living in the rural and urban populations and caused a large net migration to the cities. In large part this migration has been a kind of natural or economic selection through which the agricultural position has been improved by the elimination of the inefficient farmers, but in part it has meant the withdrawal from agriculture of some of the more energetic and intelligent farmers who have been unwilling to accept the relatively low standards of living possible on the farm.

The value of farm land and farm property decreased heavily in the post-war deflation, farm indebtedness tended to grow, and the forced turnover of farm property through bankruptcy, foreclosures, and forced sales for delinquent taxes has increased largely in comparison with the pre-war conditions, so that the rate of failure of farm enterprises in these ways has been higher in recent years than that of commercial enterprises generally. Large numbers of farmers

have lost all their property in this process; and through the failure of rural banks under the pressure of deflation in some sections, many farmers lost their savings. In large part this readjustment of values in agriculture was an inevitable consequence of excessive inflation and speculative investment during the war period, and of unsound rural banking policies; but these conditions have tended to emphasize the unfavorable situation of farmers who have desired to remain in agriculture, and have stimulated the turnover of farm lands and increased undesirable forms of tenancy, thus making for unwise use or wasteful exploitation of our land resources.

Though the various branches of agriculture and sections of the country have been differently affected by these conditions, the interdependence of the great staple crops has tended to make general agricultural conditions affect them in sympathy. During the past few years a marked improvement in these conditions has taken place, especially in wheat, corn and beef cattle production, but there is no clear evidence that this improvement represents a permanent or basic change in the position of American agriculture or in the more important factors affecting it.

Causes of Agricultural Depression

Aside from the general deflation of values following the war, in which farm prices and land values were more seriously affected than prices in other fields, the chief causes of the agricultural distress in recent years may be summarized as follows:

(1) *While farm prices have tended to become readjusted to the general level of prices but slowly, incompletely and uncertainly following the deflation period, certain major elements or factors in agricultural costs have resisted readjustment and continued at relatively high levels.*

The burden of state and local taxation particularly tended to remain high or to increase when the prices of farm products fell after the war. This was the result of the fact that, while state and local public expenditures were restrained during the period of war financing by the Federal government, in post-war years the state and local requirements for roads, schools

and other necessary public services could not be longer postponed and so increased greatly. With declining farm income, the burden of state and local taxes resting upon farm property, the assessment of which was also but slowly readjusted, tended to rise sharply.

Interest rates have also tended to remain unduly burdensome, partly as the result of war and post-war financial conditions and partly because of the continuing deficiencies of the rural credit system, especially in respect of short-time loans. This disadvantage has been intensified through the control of the activities of the borrower by the lender in sections where the farmer is dependent upon single crops and upon local merchants and landlords for credit.

Furthermore, a relatively sudden increase in transportation costs, following the restoration of the railroads to private management, occurred at the time when the general price level, and with it the prices of agricultural commodities, were falling sharply. These increases were necessary because of the financial position of the railroads, and they had no direct relation to the decline in prices received by the farmers in the markets where they sold their products, but they tended to bear heavily at such a period upon producers farthest from the market and so operated to the disadvantage of Western farmers and to the advantage of those in the East. Similar post-war changes in ocean freight rates, and the development of water transportation via the Panama Canal, have increased the difficulties of certain agricultural sections.

The persistent burdens upon the farmer resulting from wastes in marketing, high costs of distribution, and the increasing spread between prices at the farm and prices at retail have been intensified since the war. These burdens are due partly to lack of effective organization and partly to high wage levels in urban occupations, increased costs of transportation, losses from spoilage in long hauls, and the large demands for service accompanying high standards of living among urban consumers.

(2) *Certain national policies and changes in the international trade relations of the United States since the war have tended to increase production costs and especially to restrict the market for American farm products.*

Immigration restriction has probably tended in some measure to sustain urban wages, which are reflected in agricultural costs, and to increase direct labor costs and the costs of distribution as well as interest rates in agriculture. Despite increased urban purchasing power, it is probable that immigration restriction has aggravated the surplus problem in agriculture by curtailing the market for farm products in cities more than it has reduced production on farms, and by increasing foreign competition through keeping European farm workers at home or diverting them to newer agricultural countries. Furthermore, quota restriction may have deprived American agriculture of types of immigrant farmers who by long experience and ancient tradition are well qualified to farm successfully and efficiently, and may have tended to depress agriculture as a whole by freely admitting low standard farm labor.

The shifting of the United States from a debtor to a creditor position in international transactions and the steady extension of tariff protection to manufacturing industry, especially the increase in the tariff level in post-war years, have further tended to increase the difficulties of American agriculture both in respect to the market for its products and its costs of production. The enormous increase in governmental and private foreign indebtedness to the United States has compelled the debtor nations to reduce their imports, increase their exports, and become more self-sufficient in respect to agricultural products. The full effect of this change has been somewhat postponed by continued and increased foreign loans, but the decreased purchasing power of the foreign market for American products has been more seriously felt by the farmer than by other industries and the effects of our creditor position in this respect are likely to become more apparent in the future. While higher tariff levels in recent years have tended somewhat to sustain the domestic market for farm products, they have probably not only hampered in much greater degree the extension of the foreign market by reducing its buying power, but also have operated in some measure to increase costs of production. These changes have been accompanied by a declining European demand for certain American farm products due to

economic impoverishment and increased domestic production in these countries, and to effective competition from other areas.

(3) *The conditions just mentioned, which have arisen in recent years, have been combined with certain features in the position of American agriculture which have been in evidence for a longer period and have made for persistent agricultural depression.*

The decline in per capita consumption of certain foods, due to urbanization and changed occupations of the American people, as well as to altered dietary habits and new methods of preparation and distribution of food; the substitution of mechanical for animal power on farms and in cities; and changed fashions in wearing apparel, together with the development of artificial textiles, all have combined to reduce the domestic consumption of farm products. Declining domestic and foreign demand have followed a long period of persistent overexpansion of farm acreage, due to the long prevalence of the self-sufficient farm, the abundance of available land, governmental and private land settlement policies, rising land values and the ever-present tendency toward speculation in farm real estate. The overexpansion of agricultural production in face of relatively declining demand has been further aggravated by increasing yields per acre and per worker, resulting from the use of machinery and better production methods.

This uneconomic expansion of production, and the unsound forms of land tenure accompanying it, have contributed to exploitation and wasteful use of our soil resources, which tendency has injured the long run interests of agriculture and the nation. The progressive deterioration of farm lands which has resulted from depletion of the soil and erosion has tended to increase agricultural costs by lowering the yields per acre. This deterioration of farm lands has resulted partly from lack of adequate measures of flood control and partly from conditions which have tended to increase tenancy and frequent turnover of farm land and otherwise to discourage thorough tillage, proper crop rotation and the use of fertilizer. The persistent increase in crop pests in recent decades has added to these difficulties.

These conditions have tended to bear especially heavily upon agriculture because of the low gross return of the average farm enterprise; the increasing commercialization or dependence of agriculture upon market conditions; its instability due to changing natural and market conditions and accentuated by excessive regulation of produce exchanges; its lack of the advantages of the economies in production and marketing which organized action has made possible in other fields; its slow adjustment to changing economic requirements; and the rapidly increasing comparative economic advantage of manufacturing industry in the United States, which is reflected in the declining rôle of farm products in our export trade.

Some of the factors just discussed are clearly to be regarded as aspects of the adjustment process following the severe dislocation of our economic life attendant upon the World War. With respect to such factors it is justifiable and safe to rely in large measure upon time and the natural play of economic forces to bring about the necessary readjustment. It appears, indeed, that the worst phases of the post-war readjustment in agriculture are over. The relationship between farm and other prices has greatly improved in recent years. Prices of farm products have risen since 1923 while those of manufactured commodities have tended to decline. As regards farm products this has been due to the contraction of acreage and to a reduction in the number of farmers, while on the side of manufacturing industry the decline in prices has reflected increasing efficiency of production and intensive competition in urban markets.

The Problem of the Future

Readjustments to post-war conditions, however, must not obscure the larger problem of securing a balanced and stable relationship between agriculture and other industries and of achieving some sound adjustment to the deep-lying forces which over a long period of time have tended persistently to depress the relative economic position of the farmer. Existing knowledge is not sufficiently accurate or comprehensive to justify final conclusions as to the long-time trend or the

present fundamental position of American agriculture, but many of the factors now operating in agriculture are undoubtedly of a more permanent and far-reaching character.

Agriculture in this country appears to be subject to certain deep-lying ills which time alone can not safely be relied upon to cure but may even accentuate. There is evidence, for instance, that real as well as money costs in the industry are rising; that we are not keeping our old superiority over competitors; that the fertility of the land is being impaired; that erosion is insidiously and constantly carrying away a layer of irreplaceable surface soil not only from the hillsides but over practically the whole area devoted to plowed crops; that many, if not most, farmers are year after year failing to secure a return equivalent to that which can be obtained in the city by workers of no greater ability; that the comparative advantage of other industries is rapidly increasing; that the obstacles to the extension of markets for farm products are growing more effective; that the difficulties of improving the organization and methods of agriculture are increasing; that the year by year fluctuations in the prices of farm commodities are growing ever more severe and are increasing the hazard under which the farmer carries on his occupation; that tenancy is increasing; and that the quality of the farm population is undergoing a progressive deterioration.

In the face of such conditions it is obvious that we are confronted with a problem very different in character than would be the case if the agricultural situation were a reflection merely of a temporary depression due to the war. These deep-lying ills and permanently operating adverse forces evidently can not safely be left to the mere self-adjustment of the economic life but imperatively demand the formulation of a continuous, far-sighted national policy toward agriculture which shall be expressed not only in terms of cooperation among all important economic groups in the nation, but also in terms of carefully planned governmental measures.

In such a national policy, however, it is necessary to take account of those self-operating economic forces which are already in evidence in the history of our agricultural development and which are bound to run their course with or against such conscious measures of control, direction, or adjustment

as may be adopted. It seems probable that farmers have persistently been willing to accept lower incomes and standards of living than prevail in urban occupations. This has been due partly to the intangible compensations of farm life, partly to the persisting self-sufficiency of farm enterprises, partly to the continuous tendency toward over-expansion of farm acreage and to the everlasting hope of gain through rising land values. These tendencies have been insufficiently offset by the large and increasing flow of farm population to the cities. Effective readjustment of the economic disparities between agricultural and urban life will inevitably require a further decrease in the number of farmers and a persistent effort at reduction of costs of production as well as extension of markets for farm products. While the outlook for lower costs in such elements as taxes, interest, and materials is favorable, the competitive disadvantage of American agriculture in world markets can be permanently overcome only by superior efficiency in production, together with the removal of those obstacles to the extension of markets which lie in our legislative policies toward industry and trade.

In respect to its productive methods and business organization American agriculture is on the threshold of fundamental changes, the effects of which are difficult to foresee but are likely to be profound and far-reaching. The application to agriculture of new forms of power and machinery, of modern forms of business organization, and of specialized technical knowledge and managerial ability, all of which have long been at work in industry, trade, and finance, is just a beginning. Whether these changes will be effective in removing the competitive disadvantages under which agriculture labors, and how they will affect the fundamental characteristics of agriculture as an industry, a business, and a way of life of a large part of our people, is the great question of the future. It seems likely that they will lead to a large increase in agricultural production; to a great reduction of the amount of human labor per unit of output; to the increased elimination of workers in agriculture; to an increase in the size of farms; to a tendency toward corporate forms of organization; to the development of farming as a more highly organized and specialized profession, attracting men

of exceptional scientific equipment and business ability; to changes in the regional distribution of agriculture; and to the development of new types of agricultural products and of new uses for existing products. In all these processes of change, however, it should be remembered that the capacity of successful self-adjustment in agriculture is limited by the fact that it is inherently subject to exceptional hazards in its productive and marketing processes and is fundamentally dominated by natural conditions that limit the forms of producing unit to which it is economically adaptable, the extent of economic reduction of its costs, and the flexibility of its adjustment to rapidly changing conditions.

Finally, whatever the directions which our future agricultural development may take, and however successfully agriculture may adapt itself to the changes that are impending from a purely economic point of view, the tremendous significance of the social aspects of the problems involved must not be lost sight of in determining the aim in agricultural policies. Agriculture embraces about a quarter of the American people and in the past it has connoted a type of citizen, an attitude of mind and a way of life, all of which have been of the highest importance to the social and political welfare of the nation. The process of attrition which has been going on in our agriculture, the constant draining away of our farm population to the cities and the further changes that may take place through industrialization of our agriculture in the future, are matters about which we may well feel deep concern and which call for the earnest application of constructive statesmanship. Such statesmanship must take thought of the place agriculture is to occupy in the nation's future economy, of the relation between urban and rural populations, of the type of civilization we should hope to develop and of the conservation and wisest use of the basic national land resources. Our national policies in respect to industry, trade and international relations, as well as in respect to agriculture itself, all have a profound bearing upon these questions. The aim in agricultural policies, therefore, should have in view such improvement in the economic position of the farmer as is consistent with the wisest utilization of our land resources and the development of types of farmers

and forms of rural life which will make not only for greater farm prosperity, but for the long-time social and political welfare of the nation as a whole.

A sound national agricultural policy conceived in this way cannot rest upon governmental action alone but requires the active participation and cooperation of farmers and their organizations, of the other great economic groups, and of the local, state and Federal governments as the guardians of the interests of the community. The formulation of such a policy, and the building up of agencies and methods by which it may be expressed in concrete terms, will require a long period of time, for it must be the product of gradual accumulation of experience and knowledge and cannot be expected to spring complete and perfect from the brain of any individual or group.

Suggestions for Agricultural Improvement

It is in this spirit and with these considerations in view that this Commission offers the following suggestions as to ways in which, by private and governmental action, the position of American agriculture may be improved and a basis provided for the gradual development of a comprehensive national agricultural policy.

(1) *Protective policies which tend to place artificial obstacles in the way of the natural and normal extension of markets for farm products and which tend to increase the domestic costs of their production should be subjected to careful reconsideration with a view to equalizing their effects as between agriculture and manufacturing industries.*

On the basis of this principle, legislative measures designed artificially to raise the domestic price of farm products above the world price level by export bounties, export debentures or by agencies established to dispose of surplus products abroad at a loss, should be strictly avoided. Such measures would constitute a radical extension of the existing protective system to agriculture and would not offer the most effective and desirable way of permanently improving the position of agriculture as a whole. Though they might give an immediate advantage of higher prices to certain groups of farmers

at the expense of the public, this advantage could not be permanent except at constantly increasing costs to the community, and in the long run they could not be of permanent benefit to American agriculture as a whole. They would tend to diminish the agricultural income by artificially narrowing the agricultural market and would tend to increase agricultural costs by raising the price of the things the farmer buys, increasing the capital charges upon the industry, discouraging permanent tenure and efficient farming and helping to exhaust the soil resources of the nation. Rather than risk these dangers for a temporary advantage to special groups of farmers by arbitrarily raising the price of certain farm products, the Commission believes the aid of government can be more wisely invoked to increase the income of agriculture as a whole by extending naturally the market for all agricultural products, and by stabilizing the income of farmers through reducing the losses due to fluctuations of agricultural prices.

To this end the Commission believes that earnest effort may well be made gradually to modify and intelligently to readjust our protective tariff policy, with due regard for the situation which has been established, so as to equalize more nearly the benefits which that policy may afford to industry and agriculture. Through such modification and readjustment the Commission believes that the foreign market for our surplus agricultural products might well be naturally and normally extended and improved by restoring the purchasing power of foreign markets, while the domestic market might well be increased and protected by tariffs on those farm products which it would be to the long run interest of our agriculture to produce enough to meet our domestic needs.

(2) *The position of agriculture can be improved not only by governmental policies which facilitate the sound extension of markets for farm products but also by measures which tend to reduce the wide fluctuations in prices and the hazards of loss due to changing natural and market conditions.*

The Commission cannot recommend that the government itself enter directly and actively into the buying of farm products for this purpose until and unless it be conclusively demonstrated by experiment that the result cannot be

accomplished in any other way. Of all the proposals which have been offered and which the Commission has examined, it feels that certain features of the program recently put forward as the proposal of the Administration offer the most promising basis for the development of a plan which would merit trial.

The Commission suggests, therefore, that a Federal Farm Board, consisting of a small number of men appointed by the President, should be established to aid in the stabilization of prices and production in agriculture by advising farmers and farm organizations fully and promptly regarding the planning of production and the marketing of crops. This Board should make use of the facilities of the U. S. Department of Agriculture and be assisted in its work by Advisory Committees composed of persons adequately representing each important branch of agriculture and directly responsible to farmers and farm organizations, who would cooperate with it both in supplying information and advice and in making its influence effective in the production and marketing of crops.

With the advice and assistance of the Federal Farm Board, effort should be made to organize stabilization corporations to engage in the buying and selling of farm products for the purpose of stabilizing prices. Such corporations should be established through the cooperation of farm organizations, of private business organizations and of the government acting through the Federal Farm Board, each of these supplying a part of the capital necessary. The Federal government should at no time hold a controlling interest in the corporations, although it should participate in their management and be in a position to exercise such supervision over them as it does over the national banks, the Federal Land Banks and the Intermediate Credit System.

The working capital necessary to finance the operations of these corporations in handling of surpluses should not be supplied by the government but should be made available by private banking sources, preferably through the Intermediate Credit System. A relatively large amount of such capital would be necessary, but the relation of the government to such corporations would make their credit standing much better than that of unsupported cooperatives or other mar-

keting organizations, while it would be in the interests of business men and of the banking system to aid in the successful operation of such corporations in order to prevent sudden curtailment of the buying power of agriculture and to stabilize general business and credit conditions.

Cotton, wheat, and perhaps corn appear to be the only commodities in which stabilization corporations of this sort could successfully operate, at least at the outset of the experiment. As these corporations became strong enough and gained sufficient experience, it might be possible for them to carry price stabilization one step beyond the mere handling of emergency surpluses due to weather conditions and to attempt the gradual control of production, so far as this can be accomplished by influencing planting intentions and programs. To this end it might eventually be possible for these corporations to announce in advance of the planting of crops a price at which they would stand ready on a specified date after the production of the crops in question to purchase any surplus which might then be offered, this price being such as would induce the desired proportion and volume of the crops concerned. The Commission does not feel that the stabilization corporations could wisely undertake such action at the outset and perhaps not for a long time. It hopes, however, that if these corporations for the handling of emergency surpluses are organized and successful, they may find it possible gradually and tentatively to experiment with such action.

Finally, in view of the serious effects which changes in the general price level have upon the position of agriculture, the Commission wishes to emphasize that every earnest and intelligent effort to increase the stability of prices through national action and international cooperation merits the careful consideration of all who are interested in agricultural improvement and business security.

(3) *In view of the difficulties which stand in the way of immediate governmental action designed to improve the agricultural income by raising or stabilizing the prices of farm products and extending the foreign market for them, the main means of improvement of the economic position of the farmer must be sought in measures which reduce costs of production.*

First and foremost, the Commission feels that great em-

phasis should be placed upon the things which the individual farmer himself can do to lower his production costs. The production methods of many farmers are far below the best technical or economic standards. Yields per acre can be greatly increased on many farms without a proportionate increase in costs. A higher yield per man engaged must be sought, in part by increasing the average size of the farm unit and in part by utilizing labor more fully through the year. Much land formerly in crops should now be put in grass or reforested. Yields per man should be increased by larger expenditures for relatively cheap materials, like commercial fertilizer, and for improved farm equipment. In general, labor should be economized as much as possible, land used in a more extensive way and capital expenditures increased where the agents used are low in price relative to the price obtained for farm products. In such a program, power farming promises the best results, whether the power be mechanical or animal, and diversification and rotation of crops are a fundamental necessity, not only to maintain soil fertility, reduce the devastation of crop pests, increase the period of employment and insure against hazards of nature and of price, but to increase the self-sufficiency and security of the farmer.

(4) *Important as are the opportunities for individual self-help, the success of farmers in meeting their own difficulties without outside aid depends mainly upon their organized co-operative efforts in reducing production costs and market losses.*

Cooperation in the purchase of goods for agricultural production, in securing tested seed, in the improvement of livestock, in the utilization of machinery, in harvesting crops, in the grading, standardization and processing of farm products, in providing cheap credit and developing general calamity insurance, holds great promise of giving to the farmer advantages similar to those obtained in manufacturing industry through large scale production and corporate organization. Such cooperation will greatly facilitate the marketing of farm products, for many marketing problems have their roots in the production process.

In general, wherever concentration of selling agencies can improve the quality and vendibility of a product, distribute

it more nearly in correspondence with demand, or eliminate waste in the production, cooperative selling organizations offer great opportunities to farmers as well as consumers. These opportunities are greatest in the marketing of perishable commodities, but in the marketing of the great staple crops like wheat and cotton the advantages to be gained by regional and national organization of cooperatives are not so great as is generally assumed and are in part offset by definite dangers. It is unlikely that great national cooperative marketing associations could undertake the marketing of wheat and cotton more cheaply than the present marketing machinery, or secure better prices for their products by holding them to the end of the crop year. Such large scale cooperative selling associations, moreover, are subject to a constant temptation to engage in speculation and to seek, through economically unsound control of supply, an increase in the price at which they dispose of their product; and where they apply pressure on their members to restrict production, there is a persistent temptation to desert the organization, leaving the latter to bear all costs while the non-members secure equal benefits.

(5) *A balanced agricultural production, the highest efficiency of the agricultural industry, sustained prosperity for the farmer, and the permanent interest of the nation in the preservation of its natural resources can be attained only through a carefully planned policy for the utilization of the land.*

A large reduction of crop acreage in favor of improved pastures as well as forest land is desirable in the interest of agriculture and in keeping with the requirements of coming generations. The forest problem especially requires rapid action on a large scale and we shall be compelled within a few years to effect a veritable revolution in the point of view and methods involved in the utilization of land for forests. Efforts should be made to increase the forest yield, to extend protection and insurance against fire on a regional basis, to modify the burden of the general property tax upon forest land, and greatly to expand public ownership of such land.

A necessary prerequisite to the introduction of a comprehensive land utilization policy is the determination on a national scale of the present and future requirements of the

population for the several types of land. Because of the importance of the political considerations involved, as well as the vast private interests affected, land classification can be successfully undertaken only by an agency which is entirely independent of the Federal government, the state governments and of all business interests of a regional or local character. There is here an opportunity for the business interests of the country as a whole to render a great and permanent service to agriculture and the nation by setting up an independent organization endowed with adequate funds to undertake the systematic classification of our national land resources and the development of a comprehensive plan for land utilization. Such an organization, which might be called the "National Agricultural Foundation," should be the agency for a variety of activities which for one reason or another cannot well be undertaken by the Federal government or by organizations of farmers, and which are directed toward the promotion of agriculture as part of the national economy.

In order to make this land classification work effective such an organization should inaugurate an information service for landseekers, including farmers as well as urban people who contemplate going into agriculture. The ultimate aim of the Foundation would be gradually to concentrate farmers on the best land and to evacuate the submarginal districts entirely so that they could then be turned over to grass or forests, either for the production of lumber or as game and fish preserves or for general recreational use. To this end, in the South and perhaps in other parts of the country, the transfer of farmers from submarginal to better lands could advantageously be connected with an attempt to establish closer settlement areas and a more effective community organization of agriculture, under the direction of community agents.

Such a Foundation could also aid in the guidance of the population movement between farms and cities, acting not only as a national information bureau to advise established or prospective farmers about land and agricultural conditions, but supplying information to farmers about employment conditions in urban centers and directing men who leave farms to those cities where the best employment is

available. In addition to such vocational guidance it seems advisable that the Foundation should make a systematic effort to eliminate that type of farmer who cannot meet the difficult requirements of efficiently conducted agriculture, as well as to encourage able farmers to remain on farms, to move to better land and to use the best agricultural methods.

In connection with the whole problem of land utilization, new reclamation projects should be most carefully scrutinized. Ill-considered overstimulation of land settlement by state immigration departments, land bureaus and private agencies should be discouraged and restrained, and serious consideration should be given to the extension of the quota law to immigration from Mexico and other Central and South American countries.

(6) *Earnest and effective cooperation is needed between the organizations of farmers, business men, manufacturers and other economic groups not only to exercise constant watchfulness and control over local and state expenditures, but to effect needed redistribution of the burden of farm taxes, which rests with undue severity upon the farmer and in the long run endangers the economic interests of each state as a whole.*

The states should so far as practicable relinquish the general property taxes to the local governing units and obtain their revenues through income and business taxes and excises. So far as the state exercises control regarding standards of education, it is incumbent upon it to assume a considerable share of the financial burden. In meeting local educational needs the granting of state aid in proportion to the relative need or prosperity of the local community is highly desirable. If the state governments abandon the general property tax and support their road-building programs out of the income derived from other sources, particularly from the users of the highways, such expenditures as the rural communities make for their own roads ought to be borne by the localities principally concerned. In so far as the raising of local revenues is concerned, practically the only source of wealth in rural communities is land, and the only practicable alternative to the general property tax in local finance is a straight land tax. If the states relinquish the general property tax and rely

more largely upon income and excise taxes, serious consideration should be given to the extension of a system of straight land taxes in which improvements are taxed relatively lightly and the site value more heavily.

(7) *The machinery of agricultural credit as it exists today is in many respects seriously defective and susceptible of great improvement if the problem is energetically attacked.*

The Commission was especially impressed with the deficiencies in the existing commercial banking system in the rural districts arising from the excessive number of small and weak country banks. Serious consideration should be given to the desirability of extending branch banking within certain prescribed areas and of serving agricultural credit needs by a system of fewer and larger banking institutions. Improvements in the system of banking control and in the supervision of state banks are urgently needed.

While improvements of the rural banking system must be accomplished largely by state action, they might well be hastened by centralized efforts on a national scale through the action of the American Bankers Association in drafting model state banking laws and urging their enactment upon state legislatures, and through the formation of Better Rural Banking Associations to educate the voters of the farming states to the necessity of prompt legislative action in this field. The formation of country bank associations would appear to promise considerable improvement in rural banking conditions.

To lower interest rates for short-time credit and release the farmer in some sections from undesirable dependence upon the local merchant or landlord for his current credit needs, it would appear necessary to bring about more extensive use of the facilities of the Intermediate Credit System through the wide establishment of agricultural credit corporations of sufficient size to permit of efficient management and safe operation, and yet small enough to make possible permanent close contact with the borrowing farmers. Such corporations should be permitted to charge the borrowing farmers a rate so much above the rediscount rate of the Intermediate Credit Banks as would not only cover expenses but permit the

accumulation of a reserve and surplus to be applied by the corporations to redemption of all stock not in the hands of farmers or cooperatives. The Intermediate Credit Banks on their part should be permitted to charge a rediscount rate on their debentures sufficient to meet expenses and to provide for the gradual retirement of the government from ownership of the stock of these banks, so that they may be changed into farmers' mutual associations under government supervision.

The lack of sufficient capital for establishing agricultural credit corporations, together with a certain inertia, appear to be the chief reasons why the cooperatives have made such limited use of them and why the machinery of the Intermediate Credit System has failed of its full usefulness. The cooperatives should therefore seek to enlist private capital and vigorously push the establishment of credit corporations.

(8) *Agriculture can be benefited by readjustments of the railroad rate structure, the extension of waterway systems and reductions in distribution costs.*

Though the relatively unprosperous condition of the agricultural railroads shows that the existing rates on agricultural commodities are in general not unduly high, a different division of rates on through shipments would be helpful to agriculture in central and southern states. Such readjustment was contemplated in the Hoch-Smith Resolution, and this Commission commends the spirit of the resolution and urges expedition in putting into effect any reduction of rates on agricultural commodities which may prove feasible and consistent with it.

The development of the Mississippi waterway system and the construction of a Great Lakes-to-Ocean water route would be of great benefit to producers of grain in the Great Plains section and of meat products in the Corn Belt. While the connection of the central agricultural regions with the sea by the Great Lakes-to-Ocean route would benefit chiefly the producers of durum wheat in the central northwest, a real net gain to both producers and consumers seems probable from the construction of the waterway.

The development of the Mississippi waterway system is intimately connected with the problem of flood control. Whatever engineering methods may finally be adopted to

prevent recurrence of flood disasters in the Mississippi Basin, it appears to the Commission that the importance of such prevention is so great for agriculture and for the nation as a whole that the Federal government may well assume the larger share, if not the whole, of the cost.

In addition to such reductions in transportation costs as are possible in these ways, every effort should be made to improve the existing methods of distribution and lower distribution costs through further development of specialized producing areas, through reduction of loss due to spoilage by means of more careful grading and packing by producers and shippers, through closer contact of producers with retailers and more intensive study of their needs, through more effective cooperative marketing organization of producers and through improvements in city terminal facilities.

(9) *The Commission strongly urges the extension and coordination of research work in the field of agriculture by the Federal and state governments and other agencies and the appropriation of larger funds for such work.* Extensive research is needed to supply the basis of a comprehensive land utilization policy, for the elimination of plant pests and diseases, for the development of new types of agricultural products and of new uses for existing products, as well as concerning the possibilities of the application of industrial methods and business organization to agriculture, all of which agriculture itself is far less well equipped to further than are other fields of economic activity. Extension of the county agent system is desirable in order to bring home the results of scientific research to the individual farmer. The cooperative farm organizations can render great service in this respect, as well as by themselves undertaking careful study of the problems of marketing of farm products. Finally, special attention should be given to the functions of the rural schools in the education of young people in rural districts with a view not only to improving their efficiency as future farmers but also to cultivating in them a more fundamental appreciation of the values of farming as a way of life and as a profession.

If energetic action along the lines suggested in the preceding pages is taken, the Commission believes that the rehabilitation of American agriculture can be accomplished and that it can be restored to its proper place in the life of the nation.

PART II: THE AGRICULTURAL SITUATION

CHAPTER I

THE PRESENT STATUS AND TREND OF AGRICULTURAL CONDITIONS

THE agricultural situation at any time is a composite of the situation of millions of individual farm enterprises, in different sections of the country, engaged in more or less different kinds of production, under different circumstances, and carried on by farmers of different skill, knowledge, experience, and ability. Moreover, the situation of these millions of individual enterprises is constantly shifting under changing weather and market conditions. To present a picture of so vast, complex, and changing an industry, which shall be at once brief and faithful to the essential truth, is difficult if not altogether impossible. It is therefore necessary to select those features which are most in evidence, and to rely upon general indications and statistical averages. These, of course, never accurately represent the literal and particular facts of the situation, and they rarely reflect the important human and other intangible factors involved; but they are the only practicable measures which can be used in so wide a field of study, and if consistently used they serve as indicators of general changes from time to time. Moreover, the important question to which the Commission has addressed its inquiry is not so much the specific conditions which present themselves at the moment but the basic trends which may lie beneath the shifting and complex surface of the agricultural situation in recent years.

It must be remembered that the depression in agriculture and the difficulties of farmers may be expressed in absolute or relative terms. Agriculture may be absolutely less prosperous than it formerly was or the farmer may be actually more prosperous but yet have failed to secure a fair share of the increasing prosperity of the country. The Commission believes that from either point of view the position of American agriculture since the war and its trend over a longer

period of time present features which merit serious national concern. It is clear that for most of the past seven years the farmer has lost ground relatively to workers in other fields and has failed to secure an income equivalent in purchasing power to that of the pre-war period. During these years relatively few farmers have been able to do more than make ends meet, the majority have failed to maintain their position as compared with earlier years, and great numbers have lost their property. As a result of the overexpansion of agriculture relatively to domestic demand in certain branches during the war, and the precipitous decline of the general price level after the war, the long time trend in our economic life from agriculture to manufacturing industry, which had been steadily proceeding in this country for several decades but had been somewhat checked during the war, was resumed with accelerated speed. The worst of the post-war conditions have gradually cleared away and of late the agricultural situation in most of the important branches has materially improved. Nevertheless, the Commission is emphatically of the opinion that this improvement can not safely be taken to indicate that the essential features of the agricultural problem have found a permanent solution, or that the need of earnest and farsighted consideration of the basic trends in American agriculture has been in any way diminished.

Turning attention first to the agricultural situation in recent years, the following important features should be noted.

The Trend of Agricultural Prices

The status of agriculture in recent years has been most commonly and briefly represented by a comparison of the existing relationship between the prices of agricultural and non-agricultural commodities with that which obtained before the war. Such a comparison is the simplest way of showing how the exchange value or purchasing power of the farmers' products has changed in recent years as compared with earlier periods. This affords a general measure of changes in the agricultural income expressed in terms of other commodities. It does not indicate anything conclusive

about the absolute position of the farmer, since the comparison is with an earlier period, before the war, in which the position of agriculture may or may not have been particularly favorable. Moreover, such comparison of the prices of farm products with those of non-agricultural commodities does not afford any direct evidence concerning the actual position of the farmer because the prices of non-agricultural commodities shown are at wholesale, and because these commodities are in larger part things which the farmer does not buy directly, so that the costs of distribution and of services such as taxes, interest, and labor, for which the farmer exchanges his products, are left out of account.

Bearing these things in mind, the figures in Table 1 may be taken to represent the purchasing power of the farmer in recent years relatively to his purchasing power in pre-war years.

TABLE 1: PURCHASING POWER OF FARM COMMODITIES

(August, 1909–July, 1914 = 100)

(Source: U. S. Department of Agriculture, *The Agricultural Situation*, September, 1927, p. 9)

Year and Month	Index of Prices of Agricultural Commodities on the Farm	Index of Prices of Non-Agricultural Commodities at Wholesale[1]	Purchasing Power of Farm Commodities[2]
1918	200	188	107
1919	209	199	105
1920	205	241	85
1921	116	167	69
1922	124	168	74
1923	135	171	79
1924	134	162	83
1925	147	165	89
1926	136	161	85
1927			
January	126	156	81
February	127	155	82
March	126	153	82
April	125	151	83
May	126	150	84
June	130	150	86
July	130	151	87

[1] Computed by Bureau of Labor Statistics from wholesale prices of all commodities except those from United States farms. 1910–1914 = 100.

[2] The value of a unit of the farmer's product in exchange for non-agricultural products at wholesale prices, compared with pre-war values; obtained by dividing the index of farm prices of agricultural commodities by the index of the wholesale prices of non-agricultural products.

It is apparent from these figures that from its lowest point in 1921 the relative position of the farmer has steadily improved up to and through 1925. After that date a decline set in once more, but during 1927 a fairly rapid recovery has taken place. These relative price movements are a composite of changes of diverse character in respect to the different major crops, which will be noted later in discussing conditions in the various branches of agriculture. In general, it appears clearly that since 1920–1921 the prices of non-agricultural products have tended on the whole to move downward while those of farm products have tended generally, though irregularly, to increase. Nevertheless, the pre-war relationship between farm prices and those of other commodities has not yet been restored.

It might soon happen that the pre-war relationship would be restored or even that the purchasing power of farm products, measured in these terms, would rise above the pre-war level. Such changes would, of course, mean substantial improvements in the farmer's position, but it would be an error to assume that through them a permanently sound or satisfactory adjustment would have been achieved. The purchasing power of farm products measured in these terms might be either below or above the pre-war level without yielding the farmer a net income equal to that of earlier periods or without enabling him to maintain the position relative to other workers which he held in the pre-war period. This is because these price comparisons almost wholly ignore the relative costs of production. Non-agricultural commodities are only a small part of the farmer's costs, just as the prices of food are only part of the costs of production in manufacturing industries.

Relative costs in these two fields of production depend fundamentally upon the relative productivity per unit of labor and per unit of capital in each. If the farmer were today obtaining twice as large crops for a given expenditure of effort and a given investment of capital as he obtained in the base period, 1910–1914, while it required on the average the same effort or investment as in the base period to produce a unit of manufactured goods, the farmer could afford to take a 50 per cent cut in the purchasing power of farm products

over other commodities without suffering any diminution of his relative prosperity as a worker or investor. If, on the other hand, the industrial worker were now able to produce twice as many goods for a given effort and investment as he could turn out in the pre-war period, while the farmer had not been able to increase his productivity at all, the prices of manufactured goods would have to fall to one-half their former purchasing power over farm commodities in order to preserve the same relation between the prosperity of farmer and industrialist as existed in the period 1910–1914. If the purchasing power index of agricultural over non-agricultural commodities were now at par as compared with the pre-war period, it would be necessary to the preservation of the same relative prosperity among the producers of the two types of commodities that the productivity per worker or per unit of capital should have changed in precisely the same degree and in the same direction in agriculture as in a composite of other industries, other things being equal.

Data by which the relative trend of costs in agriculture and manufacturing industry may be fairly and accurately compared are lacking, but some indication of these trends is afforded by the trend of prices in the two fields over a long period of time, since, in the long run, though not in short periods, prices must reflect comparative costs. Further evidence is afforded by the relative productivity of workers in the two fields.

The Long-Time Trend of Relative Prices and Costs

The prices of farm products had been rising in comparison with the prices of other commodities for a long period preceding the World War. From the beginning of the present century to the outbreak of the War this may have been due not so much to the fact that it was becoming relatively more costly to produce agricultural commodities or, what is the same thing, relatively less costly to produce other types of goods, as to forces that were bringing about a gradual restoration of prosperity in agriculture, which had been greatly impaired in the closing decades of the 19th century; but for the period prior to the turn of the century the steady rela-

tive rise in the prices of agricultural commodities was no doubt due to relatively rising costs in that field. If this long-run price tendency had continued after the War, the price index of agricultural products, instead of being much lower than that of non-agricultural commodities, as has been the case since 1920, would have been considerably above it. In view of the increasing comparative facility in producing non-agricultural commodities which has marked the post-war period, one may say that the price index of agricultural commodities *ought* now to be considerably above that of other commodities instead of far below it, and that, if the pre-war absolute position of the farmer, not to mention an improvement corresponding to that which has come to the urban worker, is to be attained, the index *must* come to a higher point, unless the prevailing cost tendency is reversed. In short, the indications are not only that relative prices of farm products are lower than pre-war, but that relative costs in agriculture are higher, so that if the normal relative economic position of agriculture is to be restored, the relative level of farm prices must rise or the relative costs of agricultural production must be reduced, or both.

Table 2 and Chart A show the movement of the prices of agricultural commodities relative to those of other products for the period 1900 to 1926, and the trends from 1900 to 1914 and from 1914 to 1926. The irrelevant influence of fluctuations in the general price level is eliminated by showing the relation which the index numbers of agricultural and non-agricultural commodities have borne to that of the general level, 1913 prices being taken as the base. Prices of farm products continued their relative rise throughout the war period, but war prices may well be considered to have had comparatively little relation to costs. It seems better, therefore, to make the contrast on the basis of pre-war price trends, which presumably were normal. If the contrast had been made between the periods 1900 to 1920 and 1920 to 1926 instead of between the periods 1900 to 1914 and 1914 to 1926, present conditions would appear much more adverse to agriculture than those here shown, but since the farmer enjoyed abnormal prosperity during the war, this would not accurately present the real situation. In any case, it is clear

Table 2: Indices of the Prices of Agricultural and Non-Agricultural Commodities and of the General Price Level

(1913 = 100)

Year	A Index of Prices of Agricultural Commodities on the Farm	B Index of Wholesale Prices of Non-Agricultural Commodities	C Index of Wholesale Prices of All Commodities	$\frac{A}{C}$ Index of Prices of Agricultural Commodities in Relation to the General Price Level	$\frac{B}{C}$ Index of Prices of Non-Agricultural Commodities in Relation to the General Price Level
1900	67.72	88.55	80.5	84.1	110.0
1901	72.50	83.83	79.3	91.4	105.7
1902	68.99	86.50	84.4	81.7	102.5
1903	77.01	92.22	85.5	90.1	107.8
1904	78.20	88.84	85.6	91.4	103.7
1905	79.22	91.69	86.2	91.9	106.3
1906	77.50	98.70	88.6	87.5	111.3
1907	87.52	102.87	93.5	93.6	110.0
1908	86.88	93.24	90.1	96.4	103.4
1909	103.74	97.66	96.9	107.1	100.7
1910	100.55	99.40	100.9	99.7	98.5
1911	92.49	91.47	93.0	99.5	98.3
1912	92.20	95.50	99.1	93.0	96.3
1913	100.00	100.00	100.0	100.0	100.0
1914	89.65	93.54	98.1	91.4	95.3
1915	94.75	95.88	100.8	94.0	95.1
1916	151.83	131.52	126.8	119.7	103.7
1917	202.93	174.39	177.2	114.5	98.4
1918	208.82	182.76	194.3	107.5	94.1
1919	228.19	192.79	206.4	110.6	93.4
1920	130.69	238.99	226.2	57.8	105.6
1921	107.63	167.55	146.9	73.3	114.0
1922	130.71	169.03	148.8	87.8	113.6
1923	145.40	170.77	153.7	94.6	111.0
1924	145.16	160.02	149.7	97.0	106.8
1925	146.19	162.78	158.7	92.1	102.5
1926	120.37	158.78	151.1	79.7	105.1

Sources: The index of the prices of agricultural commodities was constructed from the farm prices of twelve leading agricultural commodities, as published in the Yearbooks of the U. S. Department of Agriculture.

The index of the wholesale prices of non-agricultural commodities was constructed from the indices of the several groups of these commodities as published by the U. S. Department of Labor, Bureau of Labor Statistics, in Bulletin No. 415, "Wholesale Prices, 1890–1925," pp. 8–9.

For agricultural as well as for non-agricultural commodities the indices are based on weighted averages of the separate items.

Each of the two series of index numbers thus obtained was then divided by the general index of wholesale prices of all commodities as published by the Bureau of Labor Statistics (Bulletin 415, pp. 8–9) in order to obtain indices of the relative purchasing power based upon the 1913 relationship as 100.

Straight line trends in the following Chart A were fitted by the method of least squares to each series of relative purchasing power indices for 1900 to 1914 and 1914 to 1926.

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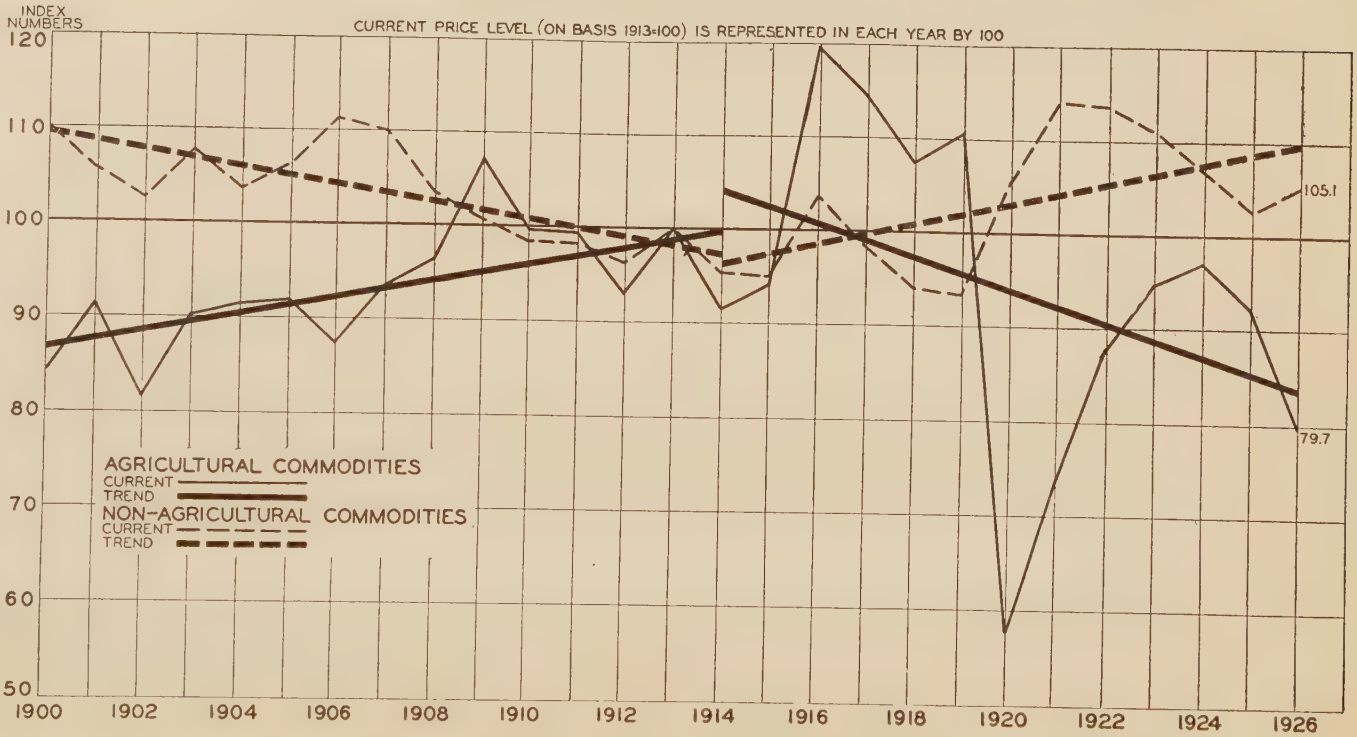
CHART A: TRENDS OF PRICES OF AGRICULTURAL AND NON-AGRICULTURAL COMMODITIES IN THE PERIODS 1900–1914 AND 1914–1926 IN RELATION TO THE CURRENT GENERAL PRICE LEVEL



from these comparisons that the pre-war trend of relative prices of farm products, which presumably was a reflection of rising relative costs in agriculture, has been reversed since the war. If this reversal indicated that the trend of relative costs had also been reversed, it would imply that the relative economic position of agriculture had in some measure been maintained; but the long-time trend of relative prices and the available facts regarding the productivity of workers in agriculture suggest clearly that this has not been so, and that relative costs have continued to rise while relative prices have fallen.

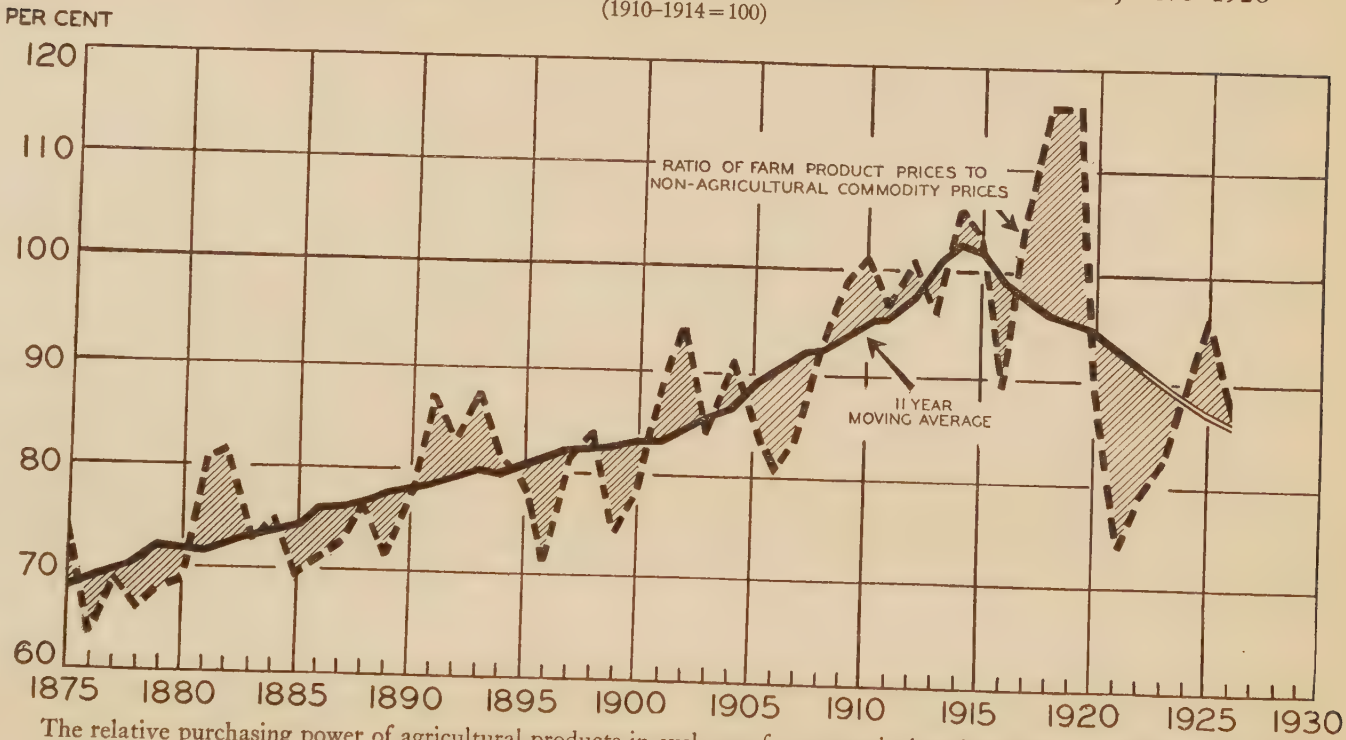
Charts B and C, which are reproduced from the June, 1927, number of the "Agricultural Situation,"[1] show a relative rise in the prices of agricultural commodities since 1875, and, with fluctuations, the movement has been under way since 1837. This is strong evidence that the cost of producing agricultural commodities has been rather steadily rising relative to that of other goods. Such price movements could hardly otherwise have been sustained. These charts indicate also that, throughout this period of nearly a century, though relative prices have gradually risen in response to rising relative costs, they have fallen below costs for long periods after each higher level has been attained. This emphasizes the persistent instability in the adjustment between relative costs and prices in agriculture, to which reference will be made later. So long as these conditions exist, it means that workers and investors in agriculture are taking a relatively lower return for their labor or on their investment than those in other occupations.

Further evidence regarding the relative as opposed to absolute prosperity in agriculture is afforded by a comparison between the movements of relative prices and the increases in physical productivity per worker in the respective industries. Aside from changing capital costs, the index of physical productivity per worker in the production of any given commodity must be accompanied by a proportionate relative fall in the price of that commodity, if the old relationship of prosperity between producers in that and in other industries is to be maintained.

[1] Article by L. H. Bean, U. S. Department of Agriculture, Bureau of Agricultural Economics.

Chart B: Ratio of Farm Product Prices to Non-Agricultural Prices, 1875–1926

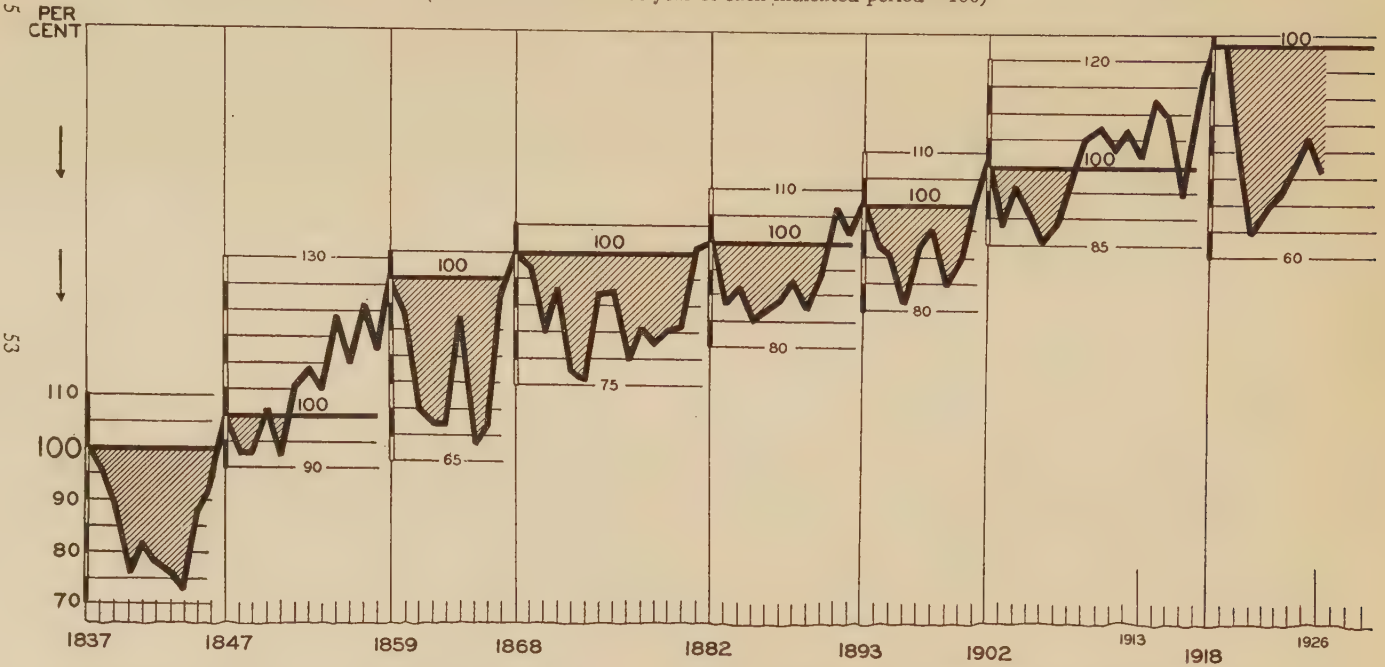
(1910–1914 = 100)



The relative purchasing power of agricultural products in exchange for non-agricultural goods at the wholesale markets (obtained by dividing the index of farm product prices by the non-agricultural price index) has fluctuated almost periodically around an upward trend up to the pre-war period. It has been below the pre-war average since 1920.

Chart C: Ratio of Farm Product Prices to Non-Agricultural Commodity Prices, 1837–1926

(Price ratios of the first year of each indicated period = 100)



During the past 90 years the ratio of farm product prices to non-agricultural prices has fluctuated periodically about a persistent upward trend. Each major advance has carried the ratio above the high point reached in the preceding advance. Major advances have usually been followed by recessions.

It is unfortunately not possible to state with any degree of precision whether in the war and post-war period real costs, that is, costs in terms of effort or productivity per worker, have or have not been rising in agriculture relative to those in other industries. Statistics on this point are meagre and not very reliable but such evidence as is available would go to show that agricultural real costs since 1914 have shown an upward relative trend, or perhaps it would be better to say that the real costs of manufactured products have shown a relative as well as absolute falling trend. An attempt at measuring the trend of productivity per worker in the several branches of industry between 1919 and 1925 is made in the following table:

TABLE 3: INDEX OF OUTPUT PER WORKER

(1919 = 100)

(Source: U. S. Department of Commerce, *Commerce Yearbook*, 1926, Vol. I, p. 18)

	1919	1925
Agriculture	100	118
Manufacturing	100	140
Mining	100	133
Transportation	100	115
All	100	129

According to these figures the output per worker in agriculture has improved less rapidly than in industry in general, though more rapidly than in transportation. Productivity per agricultural worker seems to have increased from 1914 to 1919 approximately ten per cent.[1] This would make the increase from 1914 to 1925 approximately 30%. For comparative purposes indices of productivity in eleven manufacturing industries in the same period are given in Table 4.

These comparisons indicate that in nearly all the important branches of industry the productivity per worker has risen far more than in agriculture, and that, therefore, the real costs of production per unit of labor in the latter have risen relatively. Since the prices of the products of these other industries have in general not fallen relatively to the prices of farm products in comparison with the pre-war relationship, it is probable that the relative prosperity of

[1] Based on Professor E. E. Day's "Index of Physical Volume of Production," *Harvard University Review of Economic Statistics*, July, 1926, and an index of the number of agricultural workers computed from the Census Statistics.

Table 4: Indices of Productivity of Labor in Various Industries

(1914 = 100)

(Source: *Monthly Labor Review;* U. S. Department of Labor, Bureau of Labor Statistics, Vol. XXIV, No. 1, January, 1927, p. 37)

Year	Iron and Steel			Boots and Shoes	Leather Tanning	Slaughtering and Meat Packing	Petroleum Refining	Paper and Pulp	Cement Manufacturing	Automobiles	Rubber Tires	Flour Milling	Cane Sugar Refining	Agriculture[2]
	Industry as a Whole	Blast Furnaces	Steel Works and Rolling Mills											
1914	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1915	120	..	..	..	..	..	..	..	..	..	..	..	..	..
1916	124	..	..	..	..	..	..	..	..	120	..	..	..	..
1917	109	..	..	..	..	..	..	101	..	133	..	..	..	..
1918	103	..	..	..	98	..	..	101	..	..	..	..	..	..
1919	100	96	101	105	101	93	92	104	103	136	130	96	79	110
1920	115	..	..	..	99	..	..	102	..	150	..	..	..	..
1921	94	110	92	115	126	119	111	94	124	193	190	118	82	..
1922	136	..	..	116	130	125	126	118	..	249	..	..	..	..
1923	139	154	137	107	134	128	135	116	132	270	266	128	102	..
1924	137	..	..	107	131	129	163	128	143	262	301	..	114	..
1925	159	..	159[1]	106	126	127	183	134	161	272	311	140	128	130

[1] Estimated. For details, see December, 1926, issue of the *Labor Review*, pp. 31–32.

[2] Inserted. See preceding page.

workers in agriculture, from this point of view alone, is less today than in the pre-war period. The relatively low prices or purchasing power of agricultural products, therefore, do not fully show the decline in the relative prosperity of the farmer.

Relative Incomes of Agricultural and Urban Workers

Further direct evidence on this point is furnished by a comparison of net labor incomes of the farmer and the urban worker in pre- and post-war periods, given in Table 5.

Table 5: Comparison of Agricultural Earnings with Earnings of Workers in Other Occupations

	Return per Farmer for Labor and Management[2]	Wages of Hired Farm Labor When Board is Not Given[3]	Annual Earnings of Workers in Other Occupations[4]	Labor Return per Farmer Expressed as a Percentage of the Return to Workers in Other Occupations	Wages of Farm Laborers Expressed as a Percentage of the Return to Workers in Other Occupations
Average[1]					
1910–1914	$482	$351	$666	72	53
1920–1925	613	586	1399	44	42

[1] Figures for 1910–1914 are for calendar years; farm incomes for 1920–1925 are for crop years.

[2] Based on computations of the National Industrial Conference Board in "The Agricultural Problem in the United States," New York, 1926, pages 56 and 57.

[3] L. H. Bean and O. C. Stine, "Income from Agricultural Production." *Annals of the American Academy of Political Science*, January, 1925, p. 32, and U. S. Department of Agriculture, *Crops and Markets*, Monthly Supplement, July, 1925, p. 237.

[4] Paul H. Douglas, "The Movement of Real Wages and Its Economic Significance," *American Economic Review*, March, 1926, Supplement.

From these figures it is seen that the labor return to farmers fell from 72% of the wages received by workers in other occupations in the period 1910–1914 to 44% in the period 1920–1925, while the wages of farm labor fell from 53% of the wages earned in other occupations in 1910–1914 to 42% in 1920–1925. Later figures show no great change in the situation.

It may be asked, in connection with these figures, whether the farmer has not secured a relatively small labor return by reason of having secured a relatively larger return as an

investor in the latter period than in the earlier one. In other words, have not the real labor costs of production in agriculture been high and the labor return low because real capital costs have been low and return on capital high.

The figures for return per farmer represent the balance of farm incomes after deducting 5% interest on the total value of the investment from 1910–1914 and 5½% from 1920–1925. The dollar value of the farmer's investment increased considerably from 1910 to 1925; the deduction for interest on the investment is therefore greater at the later than at the earlier date. Much of the increase in investment represents actual cash outlays for equipment, livestock or improvements in or on the land, but part was no doubt due to higher valuations of land. The figures given by the Bureau of the Census for the several types of farmer's investment are, in millions of dollars:

	1910	1925	Increase 1910–1925
Land	$28,476	$37,779	$9,303
Buildings	6,325	11,767	5,442
Implements and machinery	1,265	2,692	1,427
Livestock	4,925	7,505	2,580
Total	$40,991	$59,743	$18,752

The increase in the dollar value of land alone, however, has been but 32% or considerably less than the increase in the general price level from the one period to the other. The return deducted for investment in land at the later date is therefore less in purchasing power than at the earlier. These figures thus strongly suggest that the productivity per unit of real capital as well as per unit of labor in agriculture has declined, and that therefore the relative prosperity of the farmer as both investor and worker has fallen since the pre-war period.

Though, in general, these comparisons show that the position of farmers and farm workers has been lagging behind that of urban workers, they should be used with some reservation. It is fairly certain that they give too dark a picture of the absolute economic position of agriculture in several respects.

In the first place, they average the exceptionally unfavorable years of the deflation period, 1920–1922, with the more prosperous years 1923–1925, though the agricultural position today undoubtedly is not so bad as it was in the deflation period.

Second, it is likely that the figures for farm incomes used in calculating the return per farmer for labor and management are too low. To arrive at an estimate of the farm income that is exactly comparable with the earnings of urban workers is exceedingly difficult as it is hardly possible to estimate correctly the rental value of the farm home and the value of the food and fuel consumed on the farm or to make due allowance for those advantages or disadvantages of either type of occupation which cannot be measured in pecuniary terms. The cost of living is higher in cities than on farms; farmers are not subject to periods of involuntary unemployment as are urban workers; and they have a certain degree of freedom in their occupation which urban employment does not permit. On the other hand, the urban worker in many cases has the advantage of free or cheap insurance, medical service, protection against incapacitation and participation in profits which modern industry affords. It should also be kept in mind that many farmers, especially those near cities, sell part of their production at almost retail prices, or at least at prices which are considerably above the regular farm price for the commodity in question, while the calculations of the income of farmers in the above table are naturally based merely on the average of the farm prices. The income of women on the farm from direct sales of preserves and other products to consumers, or of young people from outside employment, is also not included.

Third, some farmers undoubtedly find it possible to supplement their incomes from farm operations by engaging in other activities in the off-season. The extent to which the cash income of farmers as a whole is thus increased cannot be measured in any comprehensive way, but such evidence as is available indicates that it is not general or large. In any case, it is the relative position of farmers as farmers which in the long run must be of main importance in determining the soundness and prosperity of the industry.

Fourth, the low average return for agriculture as given in Table 5 is largely due to the inclusion of great numbers of small Southern farmers. The income of these, however, should not be compared with the average earnings of urban workers all over the country but merely with urban incomes in the South, which are much lower than in the North. To average returns for farms of the Corn Belt, for example, with returns on cotton farms in the South and to compare this average with the average earnings of urban workers for all of the United States necessarily gives an incomplete picture, as only 20 per cent of the non-farm population of the country live in the 14 Southern States while 52 per cent of the farm population is found there.[1] In addition, it must be remembered that a few large incomes in non-agricultural pursuits raise the general average in these groups and lower the relative status of agricultural incomes.

For these and other reasons it is probable that the comparison given in Table 5, and most similar comparisons between earnings in agriculture and other occupations, present a somewhat distorted or incomplete picture of the current economic position of agriculture as a whole. But, when all due qualification is made, there still remains ample evidence that agriculture has not maintained its relative prosperity in recent years and that the farming population of the country, taken as a whole, has not been receiving its proper share of the national dividend. This general conclusion is strengthened by the facts regarding the movement of farm population, the increase in farm indebtedness and tenancy, the failures of farm enterprises, and of banks in rural districts.

Decline in the Farm Population

The constant decline in the farm population which has been going on in recent years is in part evidence of the depression in agriculture. According to estimates of the U. S. Department of Agriculture, more than 2,000,000 persons annually have left the farm for several years past, and though this has been in part compensated by a counter

[1] See John D. Black: "Agriculture Now?" in *Journal of Farm Economics*, April, 1927, p. 145.

movement from the cities to farms of approximately a million persons a year and by the natural increase of the farm population, the net decrease in the farming population has been very large. Table 6 presents detailed figures of this movement.

TABLE 6: FARM POPULATION, 1920–1927

Year	Numbers	Net Decrease Over Preceding Period
1920	31,000,000[1]	..
1925	28,982,000[2]	−2,018,000
1926	28,541,000[3]	−441,000
1927	27,892,000[3]	−649,000

[1] This figure is not official. The Census Reports give 31,614,000 but, according to information received from the U. S. Department of Agriculture, this must be reduced to approximately 31,000,000 in order to make it comparable with the figures given in the Farm Census for 1925. The 1920 Census included farm laborers' families living outside incorporated places but not on farms, while the 1925 Census did not.

[2] Preliminary estimates of the 1925 Farm Census, Press Summary, Release of April 18th, 1927.

[3] Estimates of the U. S. Department of Agriculture, Office of Information, Press Service, Release of April 20, 1927.

The farm population, as is well known, has been increasing much less rapidly than the urban population for a long period of time, so that while in 1820 it formed about 90% of the total, in 1920 it was 29.9% of the whole population. The year 1920, however, was the first census year in our history that showed a smaller number of agricultural workers than had been engaged on farms at the time of the preceding census, and 1925 was the first census year to show an absolute decline in the farm population.

It is impossible, however, justly to estimate the significance of this trend of population and workers away from the farm without careful consideration of the changes in agriculture and in rural life which it involves, and for this we lack adequate information. In large part, no doubt, this migration to the city is merely a reflection of a natural and wholesome adjustment of agriculture to the changed conditions of production and the market. The increase in productivity per worker in agriculture through the use of modern machinery and more scientific methods has made it possible to supply the requirements of population for food and agri-

cultural materials with much fewer farm workers. It would be desirable, however, to know something more of the type of farmers who have left the farm in this process. In part, the exodus from our farms has been a wholesome process of natural economic selection, by which the less efficient and energetic farmers have been eliminated in the struggle for existence that has been going on in agriculture. It appears from the following figures that relatively more negro farmers than whites left the farm in the exodus since 1920.

	1920	1925	Decrease 1920–1925	Per Cent Decrease 1920–1925
White Farm Population.....	26,313,654	24,474,812	1,838,842	7%
Colored Farm Population.....	5,300,615	4,506,881	793,734	15%

This is a reflection of the fact that many Southern one-crop cotton farmers have been forced into other occupations. The elimination of these and other marginal farmers can only have been advantageous for agriculture as a whole. But it is clear that in many cases agriculture has lost men whom it could ill afford to spare. The more energetic, ambitious and intelligent among the younger generation of the farm population have all too frequently felt that farming has not offered opportunities equal to their ambition. They have in many cases sought these in the city and so enriched urban life, but impoverished agriculture in intangible but important ways.

Increase in Mortgage Indebtedness

The mortgage indebtedness of farmers has shown a considerable increase since 1920 in spite of strenuous efforts to curtail agricultural loans. It is estimated that the total mortgage debt of the agricultural industry rose from $7,860,000,000 in 1920 to $8,500,000,000 in 1925.[1] This increase in debt has been laid upon lands which have been rapidly declining in value so that the farmer's equity has been shrinking at a very rapid rate. Table 7 shows, for owner-operated farms, the value of lands and buildings, the amount of mort-

[1] Estimates made by L. M. Graves in "Interest and Taxes in Relation to Farm Income," *Annals of the American Academy of Political Science*, January, 1925, p. 37. It is likely that the last figure is too low. W. M. Jardine, Secretary of Agriculture, recently estimated the mortgage debt for 1926 at $9,500,000,000.

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gage indebtedness and the ratio of indebtedness to value at the three periods 1910, 1920, and 1925.

TABLE 7: INCREASE IN FARM MORTGAGE DEBT FOR OWNER-OPERATED FARMS, 1910–1925[1]

	Amount (Millions of Dollars)		
	1910	1920	1925
Value of farms (land and buildings)	$6,330	$13,776	$10,790
Amount of mortgage debt	$1,726	$4,004	$4,517
Ratio of debt to value, per cent	27.3	29.1	41.9

[1] Figures include only farms consisting wholly of land owned by the operator and reporting amount of mortgage debt. Source: Fourteenth Census of the United States, 1920, Vol. V, "Agriculture," p. 481, and United States Census of Agriculture, 1925, "Summary Statistics, by States," p. 16.

FAILURE OF FARM ENTERPRISES

Another indication of the difficulties under which agriculture has been laboring in recent years is to be seen in the high rate of failure of farm enterprises. These failures are reflected in foreclosure of mortgage, bankruptcy, default of contract, or other transfers to avoid foreclosures, and forced sales for delinquent taxes. Studies made by the U. S. Department of Agriculture[1] showed that in 1924 and 1925 forced transfers of farms for these reasons constituted slightly over one-third of all transfers of farm property. In the West North Central and Mountain sections the percentage of forced sales was 50% or more. More significant is the fact that in the year ended March 15, 1926, out of each 1,000 farms in the United States, 21.39 changed ownership as a result of forced sales and similar defaults. This ratio exceeded 30 in the West North Central States, and 50 in the Mountain States. In some, like Montana and South Dakota, from 66 to 71 of every 1,000 farms changed hands for these reasons. These figures appear the more striking when it is considered that the rate of failure of commercial enterprises in 1924 and 1925 was less than 10 per 1,000 enterprises. In short, the rate of failure of farm enterprises in recent years has been several times as high as in other fields.

Though bankruptcy is the more exceptional way out for

[1] E. H. Wiecking, "The Farm Real Estate Situation, 1926," U. S. Department of Agriculture, Dept. Circular 377, Feb., 1927.

the embarrassed farmer than in the case of other enterprises, the rate of farm bankruptcy has increased in recent years under the burden of mortgage indebtedness placed on a rapidly declining value of land and buildings. While in the period from 1905 to 1914 farm bankruptcies per 1,000 farms in the United States averaged 0.14, the corresponding figures for recent years are:[1]

1921	0.21
1922	0.50
1923	0.93
1924	1.22
1925	1.23
1926	1.22

The higher figures in the years 1924 to 1926 when compared with the preceding three years do not indicate that of late agricultural conditions have become worse, but must be explained by the fact that there is a natural time-lag between a decline in agricultural prosperity and the reflection of this condition in the rate of farm bankruptcies. The bad agricultural years of 1920 to 1922 were therefore reflected in increased farm bankruptcies only during the last few years.

Here again, as in the matter of the decline in the farm population, the failure of farm enterprises is of little significance in itself unless it is known what kind of enterprises they are, and what kind of farmers have failed. In part these failures probably reflect merely the elimination of the weaker farmers, and are to the benefit of agriculture as a whole; but there is no doubt that in many cases they have meant the loss of able men to agriculture and have caused great suffering in the process.

Increase in Rural Bank Failures

The agricultural difficulties of the last years are indirectly reflected also in an increase in failures of rural banks. The numbers of State commercial and of national banks which failed during each of the past few years is as follows:[2]

1921	291
1922	339
1923	239
1924	837
1925	523
1926	547

[1] From a study by L. H. Bean, Bureau of Agricultural Economics, U. S. Department of Agriculture; see *The United States Daily*, September 9, 1927.

[2] Report of the Comptroller of the Currency, 1926, p. 614.

The bulk of these failing institutions consisted of small State banks in rural districts. Although a considerable part of these failures was due to unsound banking practices, many were, without doubt, caused in part by the bad agricultural conditions of recent years and resulted in great loss to those in the industry and increased its difficulties. To thousands of farmers already loaded with troubles the loss of their deposits through these bank failures has come as an intolerable burden.

Tenancy

The percentage of farms operated by tenants has steadily risen from 25.6% of all farms in 1880 to 38.1% in 1920 and 38.6% in 1925.[1] Since 1910 the actual number of American farms operated by owners has decreased, while those operated by tenants, particularly share tenants, have increased. In 1925 there were 80,390 fewer farms operated by owners and 107,932 more farms operated by tenants than in 1910. The increase in tenancy is in part merely a reflection of the great rise in land prices during the last decades. Furthermore, tenancy is not undesirable in so far as it represents a step towards ownership and does not lead to wasteful use of soil resources. In very many cases, however, tenant farming has serious economic and social disadvantages and its constant increase is, therefore, an indication of unsound agricultural conditions. In certain Southern States about two-thirds of the farms are operated by tenants, and a large percentage of these men change their farms every year. It is estimated that, in 1922, 27% of the tenant farms of this country changed occupants,[2] and the figure has probably declined only little since then. Men who remain so short a time on a farm obviously can not be expected to employ agricultural methods which conserve the soil fertility or to identify themselves with the cooperative, educational, or social activities of the rural community.

[1] Fourteenth Census of United States, 1920, Vol. V, "Agriculture," p. 124, and United States Census of Agriculture, 1925, "Summary Statistics, by States," p. 4.

[2] U. S. Department of Agriculture, *Yearbook*, 1923, "Farm Ownership and Tenancy," by L. C. Gray, Charles L. Stewart, Howard A. Turner, J. T. Sanders and W. J. Spillman, p. 589.

Conditions in the Various Branches of Agriculture

Not all of the agricultural districts in the country have been similarly affected by the existing depression, and some agricultural commodities in some or all of recent years have yielded a fair profit to their producer. But though there are distinct differences in the degree, and even in the manner, in which different districts and different commodities have been touched by the depression, the great staples tend to be affected in sympathy with one another. This is due to the fact that it is usually possible for a considerable number of farmers to substitute one crop for another whenever any one commodity is selling at a low or high price relative to that which alternative commodities are bringing. Some wheat farmers can plant corn or oats and some corn farmers wheat or oats or cotton, while many cotton farmers can produce corn. In this way, though with fluctuations from year to year, there is a tendency toward a fairly rapid equalization of conditions over the whole field of production of the staple agricultural commodities, and it is unlikely that wheat farmers, for instance, will remain in an unfavorable position for any considerable period of years while their fellows producing corn or cotton or livestock are prosperous, or that wheat farmers will remain prosperous while producers of the other crops are subject to continued depression.

This is, of course, true only of the staple crops. Wherever a producing district has something of a local monopoly of its market or the crop is such as can be grown only under special, rather narrowly restricted conditions of soil or climate, the producers of it may be able to protect themselves from the prevailing trend and maintain a preferred position indefinitely. This is, at least in part, the explanation of the relatively favorable circumstances of the New England and Middle Atlantic farmers and those of the far West, during the period in which the chief agricultural sections of the country have been passing through the shadow.

There is, however, a real interdependence among the several great crops and it is thus justifiable to generalize in some measure, though always with the reservation that specific districts are some more, some less, and some perhaps

not at all affected in sympathy with the general condition. Averages and general statistics present a necessarily blurred picture, but in dealing with subjects of great scope and many units this is the only sort of picture that can be apprehended. There are in this country more than 6,300,000 farms, operated by men of widely varying efficiency, some of whom have no doubt been prosperous in the last few years, but in assessing the situation of agriculture as a whole, it is necessary to deal with average conditions, and individual or even sectional variations from the normal are of necessity somewhat obscured. To consider specific crops or sections alone would involve confining attention to local and passing factors and would result in losing sight of fundamental tendencies affecting all agriculture.

Corn, wheat, cotton, hay and oats, however, are so preeminent among American crops, and swine, cattle and dairy products in our animal husbandry, that the prosperity or adversity of producers of other farm products can have relatively little effect upon the general situation. Fruits, vegetables, tobacco, and sugar, when taken together, are a sizeable item, but the diversion of a relatively small acreage from these to the great staple crops can affect the prices of the minor crops materially without causing an appreciable change in that of the staples. The prices of the minor crops are therefore subject to comparatively easy adjustment to the general situation. On the other hand, the prices of the staples are not subject to appreciable improvement by any feasible expansion in the total acreage devoted to the minor crops. The staple crops completely dominate the general situation.

The following pages afford a rough picture of the situation in the several crops and agricultural regions during the past few years:

Wheat

On August 15, 1927, the price of wheat was 39.7 per cent above the average of the years 1909 to 1914.[1] A similar price prevailed for the crop of 1926. In 1924 and 1925 prices were

[1] Prices in this section are farm prices as published by the U. S. Department of Agriculture in *Crops and Markets*, Monthly Supplement, September, 1927, pp. 340-341.

considerably higher, while the years 1921 to 1923 were characterized by prices only 5 to 17 per cent above pre-war level. It was natural that at that time serious distress should have existed in the wheat districts. During recent years, however, conditions have greatly improved. Except in 1925, crops have been plentiful and have sold at prices reasonably above pre-war level. It is true that costs also have risen and that the wheat farmer probably feels more than other farmers the general increase in costs since modern wheat farming requires a larger amount of machinery than most other crops and since wheat as a frontier crop is more affected by the increase in freight rates. On the other hand, recent improvements in wheat harvesting machinery, especially the tractor-driven combined harvesting and threshing machines, have enabled the wheat farmers to raise their crop with a minimum of labor and have thereby greatly reduced the cost of producing wheat. Tractor plowing is doing the same. Although the combines are not equally advantageous in all wheat regions, it is certain that savings in production costs when compared with pre-war years are possible in many respects, so that the present prices probably net a satisfactory profit to those farmers who have the necessary capital and do not depend largely upon labor in their production.

Cotton

Between 1922 and 1925 the price of cotton was, on an average, about 90 per cent above the pre-war level. In 1925 and 1926 it fell sharply and on December 15, 1926, was 19.4 per cent below the pre-war level. Since then it has been rising once more and on August 15, 1927, was 37.9 per cent above pre-war. These great price fluctuations have in themselves been a severe burden on the cotton farmers. Furthermore, it must be kept in mind that because of the boll-weevil, cotton production is now much more expensive than it was before the general spread of this crop pest, so that the pre-war price is no suitable standard of comparison even when allowance is made for changes in the general price level. In addition, the production of the average cotton farmer, because of the small-scale hand methods usually employed, is so limited that even a price considerably above pre-war level nets only

an insufficient income. The U. S. Department of Agriculture estimated the value yield per acre of cotton for the 1926 crop at $21.33 and for the preceding crop at $31.79.[1] But as the average cotton farmer has hardly more than about 25 acres in cotton and as crop diversification is still very rare among the cotton farmers, it follows that the total gross cash income of these farmers is often only $500 to $600 per farm per year. This means that after deduction of the operating expenses as a rule there remains only an amount which is entirely insufficient to maintain an American standard of living.

The situation in cotton is further adversely affected by the great expansion of cotton acreage which has taken place during recent years. The acreage rose from 33,036,000 acres in 1922 to 48,730,000 in 1926. The increase is in the main due to the development of cotton production in the western parts of Texas and Oklahoma. In these districts the higher altitude and the drier climate make the boll-weevil less dangerous and diminish the necessity of cultivation for fighting the weeds. Furthermore, in these districts the cotton plants ripen at the same time so that only one harvesting operation is necessary. This, together with the levelness of the fields, allows the utilization of cotton harvesting machines, the so-called "sleds." Under the influence of all of these factors, one cotton farmer in West Texas or West Oklahoma is able to attend to 100 and more acres of cotton and to produce his crop at a cost far lower than the cotton farmers in the eastern parts of the Belt. It is largely the competition from these newly developed regions which is holding the cotton price at a level insufficient for most farmers in the older cotton sections. In addition, changes in the consumption of cotton textiles and the use of other artificial textile materials have disturbed the market conditions for cotton. For all of these reasons the present situation of the cotton farmers must in general be considered decidedly unsatisfactory.

[1] U. S. Department of Agriculture, *Yearbook*, 1926, p. 962.

Corn and Oats

Corn and oats should be considered together since they are involved in the normal rotation of crops in the Corn Belt. Both crops have been characterized by decidedly unsatisfactory prices during most years since 1920. On December 15, 1926, corn was only ½ of 1 per cent above the pre-war average and oats only 3 per cent above. Prices in the previous years were only slightly better. This situation, together with the high land values of the Corn Belt, was ruinous to those Corn Belt farmers who sell their corn and oats. Fortunately, however, most of the Corn Belt farmers market these crops in the form of hogs and beef cattle so that the prices of the latter commodities are more significant than the price of the grains. Recently, the prices of corn, and to a lesser extent also those of oats, have shown a considerable advance. On August 15, 1927, the corn price was 52.2 per cent above pre-war level, while for oats this figure was 11.3. The increase was due to the unfavorable climatic conditions of the spring of this year. Such sudden price changes are characteristic of agriculture. As they are, however, due to weather influences and therefore only of a temporary character, they cannot affect the long-time position. Their importance should not be overestimated, although for a year or two they may create fairly satisfactory conditions in certain agricultural sections.

Hogs

Hog prices were decidedly unsatisfactory (mostly below pre-war level) during 1921 to 1923. Between 1923 and the end of 1926 they rose and were, on December 15, 1925, and December 15, 1926, respectively, 45.4 per cent and 51.7 per cent above pre-war level. During 1927 hog prices have pursued a downward trend once more, which has wiped out part of the price gains made between 1923 and 1926. On August 15, 1927, they were 27.8 per cent above pre-war level.

Beef Cattle

Beef cattle prices were decidedly unsatisfactory (below or just at pre-war level) from 1920 and 1924, inclusive. Since

then they have been slowly rising and were, on August 15, 1927, 38.1 per cent above pre-war level. During all of the last years the beef cattle industry has witnessed a severe depression. It suffered from the great overexpansion in cattle production which took place during the war and from the loss of export markets, which had gradually passed to newer countries, like the Argentine. The industry further suffered from the declining per capita consumption of beef cattle in the United States and from the expansion in the number of dairy cattle. "As all dairy cattle go to slaughter eventually, the growth of the dairy industry makes a substantial addition to the meat supply."[1] Of late, however, the beef cattle industry has been in a distinctly better condition, as can be seen from the increase in prices. Fat cattle prices have risen still more. It is evident that the liquidation process in the overexpanded herds which was under way since 1920 has taken its course, and more prosperous years may therefore now be expected for the industry.

Sheep

Price development in the sheep industry has been satisfactory. On August 15, 1927, the price of sheep was 56.4 per cent above pre-war level, of lambs 88.7, and of wool 76.8 per cent. In some of the preceding years prices were still more favorable, especially for wool. One reason for the satisfactory price situation in wool is the resumption of tariff protection in 1921 and 1922.

Dairy Products

On August 15, 1927, butter prices were 58 per cent above pre-war level and they have been at a similar level during all of the last five years. Prices for whole milk, sweet cream and cheese are also reasonably satisfactory. The dairy farmer is further favorably affected when feed prices are cheap and through his proximity to consuming centers which makes increased freight rates of comparatively little significance to him. As dairy farming is exacting in its labor demands, it is not greatly favored by farmers and, perhaps for this reason, production is running at a level which permits the tariff to

[1] U. S. Department of Agriculture, *Yearbook*, 1924, p. 10.

be effective. The perishable character of whole milk and sweet cream removes these products from foreign competition in any event, except in sections close to the border.

Truck and Fruit Crops

The situation in truck farming is characterized by a great increase in acreage. In 1918 there were about 1,800,000 acres planted in 16 truck crops. In 1924 this figure had risen to 2,200,000 acres, an increase of 22 per cent.[1] On the other hand, the consumption of vegetables in urban centers is rapidly increasing. A similar situation exists in fruit farming. Both industries are comparatively profitable, although on account of varying crop yields they are subject to great price and profit fluctuations from year to year.

There is a constant danger of overexpansion of the acreage in fruit as well as in truck farming. Fruit farming is attractive to farmers by reason of its pleasant labor demands and its location in climatically favored regions, while vegetable farming, although it has unpleasant labor demands, is attractive since it requires a very small capital investment and promises high profits in some years. In the Cotton Belt, especially, a strong tendency toward the expansion of fruit and vegetable acreage is noticeable. This tendency is, in part, a result of the necessity for crop diversification. As, however, the total acreage of fruits as well as vegetables is small when compared with the acreage of cotton or other leading crops, a wide-spread shifting to fruit and vegetables may easily lead to serious overexpansion in these lines, without causing any material advance in the prices of other crops.

Poultry and Eggs

Poultry raising is in most cases carried on as a side line to other farming activities. Before the war the average yearly price of eggs on the farm was not far from 21 cents a dozen. During the last few years it has averaged about 26½ cents. Farm prices of chickens have risen from a pre-war average of 11.4 cents per pound to approximately 19 cents in recent years. As almost every farm has, or at least should have, some poultry, and as, in addition, many farmers specialize in

[1] U. S. Department of Agriculture, *Yearbook*, 1924, p. 9.

this line, there is considerable danger of overexpansion and it seems doubtful whether it will be possible to maintain the present prices of eggs and poultry.

Conditions in the Several Agricultural Sections

Conditions in the various sections are, of course, dependent on the prevailing situation in the dominant crop or crops. In general, producers of exported staples have been hardest hit while the producers of specialties or those with a contiguous market have suffered least. New England farmers have done well throughout the period of depression and, with exceptions in certain crop districts and in certain years, producers in the Middle Atlantic States and on the Pacific Coast have not been badly off. Conditions in the Wheat Belt have improved in recent years and the same has been true of Corn Belt farmers who feed their crops. In the range cattle regions a combination of severe natural conditions and the sharp fall in prices in 1920 led to a state of prostration from which a recovery has taken place only recently. The sections which depend on cotton present the most unsatisfactory aspects. The income of cotton farmers is on an average very small and the status of these farmers makes most of the South a dark spot in the agricultural picture.

The Immediate Prospect

The play of automatic forces has already brought some relief to agriculture and further improvement from this source is well-nigh inevitable, though whether this will occur soon or not and be permanent, is an open question on which some comment will be made in succeeding pages. While progress in price readjustment has been made, it has been by no means steady; on the contrary, it has been marked by great vicissitudes. For one product or another a reasonably satisfactory price has developed from time to time, only to lapse later to the generally prevailing unprofitable levels. Improvement has proceeded haltingly and with many setbacks, but maladjustments are being righted. The exodus from the farm, which has been much accelerated in recent

years, is doing its work. The total population of the country is growing at the rate of about one and one-half per cent a year and with it the total demand for foodstuffs is increasing, even though per capita consumption of certain grains is declining. This increase in urban demand, coupled with a shrinkage in the supplying population, is bound to effect an improvement in the farmer's condition. The extent of this improvement depends, however, upon the operation of general forces which affect the position of agriculture as a whole.

CHAPTER II

FACTORS MAKING FOR AGRICULTURAL DEPRESSION

THE discussion in the preceding pages was confined in the main to a comparison of the present status of agriculture in certain special aspects with that in pre-war days. It is not surprising that an event of the magnitude of the World War, which for years upset the economic machinery and processes of the world, should have thrown American agriculture out of gear with the rest of our economic life. The same derangement of the economic balance occurred after the Civil War in this country, as it did in English agriculture after the Napoleonic Wars. These conditions, however, are of far less importance than the question of the fundamental situation and tendencies which American agriculture presents when its long-time development and relation to the rest of our economic life are considered. But this question cannot be answered without a clear understanding of the causes which underlie the present situation, and of the factors which have been operating for a long period to determine the development of American agriculture as a whole.

Post-War Deflation

Among the factors in the agricultural depression in recent years the most obvious and immediate is the deflation of the general price level which occurred with such violence in the years 1920 and 1921. It is beyond doubt that deflation struck agriculture with peculiar force. As may be seen from the following table, prices of farm products fell farther and faster than did prices in general and they have ever since remained below the price level of all commodities.

This exaggerated fall in the prices of products of the farm is not surprising, since the prices of primary products are normally more sensitive to changes in the general price level

TABLE 8: PRICES OF AGRICULTURAL COMMODITIES IN RELATION TO THE GENERAL PRICE LEVEL

Source: Farm Prices: U. S. Department of Agriculture; *Crops and Markets*, April, 1927, p. 159.

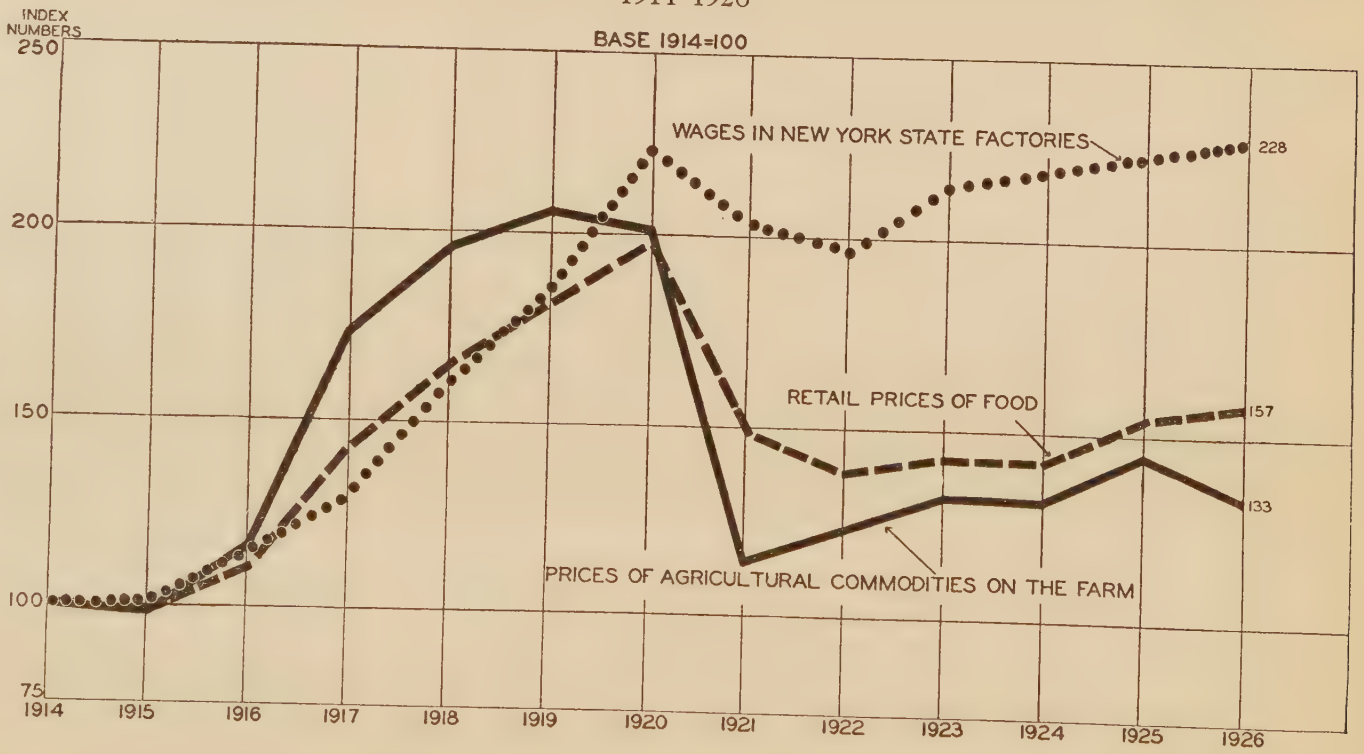
Wholesale Prices: U. S. Department of Labor; *Monthly Labor Review* June, 1927, p. 194.

(1913 = 100)

Year	Index of Prices of Agricultural Commodities on the Farm	Index of Wholesale Prices of All Commodities
1913	100	100
1914	102	98
1915	100	101
1916	117	127
1917	176	177
1918	200	194
1919	209	206
1920	205	226
1921	116	147
1922	124	149
1923	135	154
1924	134	150
1925	147	159
1926	136	151
1927 (1st qtr.)	126	146

than are commodities farther removed from the raw material stage. Primary commodities rise more quickly when the price level is advancing and they fall more quickly when it has a downward trend. This, in the main, is due to the relative inertia of wages. Employers usually resist a rise in wages and employees a fall. Wages, in consequence, tend to move less rapidly than the general price level, and much less rapidly than the prices of primary commodities. The prices of products into which labor enters in a large measure tend to reflect the relative sluggishness of wage adjustments, and the more highly manufactured a product is, the less the tendency to respond quickly to general price changes. Though there are, of course, striking exceptions to this rule, such exceptions are due to factors other than the movement in the general price level. The general principle is strikingly illustrated by a comparison of the movement of the prices of agricultural commodities on the farm, wages in factories in New York State, and the retail price of food from 1914–1926, as shown in Chart D. The more rapid movement of prices on the farm, both on the up and down grade, is apparent.

CHART D: CHANGES IN PRICES OF AGRICULTURAL COMMODITIES, WAGES, AND RETAIL PRICES OF FOOD, 1914–1926



The spread between prices on the farm and prices at retail is very largely a labor cost and it is therefore especially unresponsive to a change in the general price level. The cost of distribution, and of manufacture as well, is relatively inflexible, and the result is that the price to the final consumer reflects but slowly changes in the price of the primary product. In other words, the primary producer tends to benefit at the expense of intermediaries in a period of rising prices, while the "middlemen" tend to benefit at the expense of the primary producer when prices are falling.

For still other reasons agriculture offers little resistance to depression when a deflation movement is under way. Farmers are comparatively unorganized, their products are assembled from small and widely scattered producing units, and are sold in mass on the produce exchanges, remote from the grower, for what price they will bring. The grower has comparatively little option of refusing, even temporarily, the price that the market affords. Once agricultural prices have definitely fallen, it is a long and hard struggle to restore them again. Producers immediately tend rather to increase than restrict their output in order to make up by volume of sales what they lose in price, and the situation grows worse.

An especially harmful effect of deflation on agriculture is that it loads the farmer with a burden of overhead charges out of all proportion to the prevailing price level. The turnover of capital on the typical farm is probably not faster than once in seven years. The high ratio of fixed charges to annual income which this involves becomes a crushing weight when deflation sets in. It requires as many dollars as before to pay overhead charges while the lower prices for farm products yield the farmer fewer dollars to pay them with. During the war, when the prices of farm products rose relatively to costs and relatively to the general price level, the farmer tended to invest his profits in land. The result was a rapid increase in values. This boom in agricultural land values was carried much too far and a large measure of the farmer's present difficulties, especially in the best farming regions, is attributable to this cause.

It may be true that the individual farmer is not greatly to blame for the speculative increase in land prices during the

war years. Values in every other field rose also, and the farmer was carried along in a general inflation movement. He invested in the only thing he knew well and the prices he paid were justified as a capitalization of the net income which he was at that time receiving. They were not very excessive even should his money costs rise considerably, provided the general price level then prevailing were maintained. Whether or not it would be so maintained was a question on which even those most qualified to judge were by no means unanimous, and certainly few, if any, of the authorities on this question expected that deflation would be as sudden and as drastic as actually came to pass in 1920. A much larger measure of culpability attaches to the local banks than to the farmers, for many of these banks fostered speculation in lands, while some went so far as to become, in effect, real estate operators.

Regardless of blame, the fact remains that in many sections prices of land were bid up to figures on which, at the present prices of farm products, it is impossible to earn anything like a fair return. Much of the land which changed hands prior to 1920 was financed on a mortgage basis and the interest charges on these mortgages can now be supported only with the greatest difficulty, if at all. The inevitable result was a rapid fall in land values, and the psychological effect upon the farmer has been tremendous. Men who for years had been slowly building up a competence and had invested the profits of the war period in adding to their hard-won possessions, suddenly found themselves poor. It is noteworthy that discouragement seems most pronounced in the best farming areas of the country, where gross returns tend to be largest and land values high. The decline in land values has led to stagnation in the land market, since prospective buyers have held off in the hope of a still further fall. The result has been the sale at very low prices of many farms on which mortgages have been foreclosed. The failure to sell these lands at reasonable levels has diminished the confidence of lenders and has made them wary of advancing money for the purchase of land unless it can be obtained at unduly low prices. It has also intensified the troubles of former lenders on farm mortgages.

The fall in land values had the effect of freezing still more solidly the assets of many banks in rural districts whose loans, directly or indirectly, were based on land. The record of bank failures already referred to is testimony to the significance of this phenomenon, and the repercussion of these failures on the farmer depositors has given a final blow to many who were already sorely pressed. A mutual lack of confidence has developed between farmers and bankers which is, of course, hurtful to both; the banker hesitates to lend to farmers and the farmer often refuses to deposit with the local bank.

The troubles in which rural banks and lenders on farm securities have found themselves have made it difficult for farmers to secure the advantage which might have been expected from the decline in general interest rates that has been taking place since 1920. Refunding operations are practicable only when credit is good, and the very high rates which farmers have been paying on what were, in form, short-term loans, could not be lowered in response to easier conditions in the money markets, both by reason of the inability of the farmers to take up their loans and of the banks to reduce rates in the face of the losses with which they have been confronted.

Increase in the Tax Burden

When the prices of farm products fell, taxes did not follow. This was in part an unavoidable accompaniment of the deflation process, as taxes represent in the main the salaries of public employees and, like wages in general, respond slowly to a declining price level. In part, however, it was due to the fact that necessary state and local expenditures had been restrained during the war and could no longer be postponed.

How greatly taxes increased during and immediately after the war will be seen from the following figures. Direct farm taxes in 1913 amounted to $315,000,000; in 1922 they were $861,000,000, an increase of 173.3 per cent. All taxes, direct and indirect, paid by the farmer in 1913 amounted to $624,000,000; in 1922, to $1,436,000,000, an increase of

130.1 per cent. Considered on a per acre basis, the increase between 1914 and 1922 was from 31 cents per acre in the former year to 71 cents per acre in the latter, that is, 125 per cent. The general property taxes levied by State and local governments took $308,000,000 from the farmers in 1913, but $787,000,000 in 1922, an increase of 155.5 per cent.[1]

It is not the absolute increase in taxes, however, that has been of most significance, but rather the ratio of taxes to farm income. During the war years, farm taxes, like other costs, were rising, but the prosperity of the farmers at that time enabled them to take care of their taxes without much difficulty. The pinch came when costs began to overtake income. Of these costs, taxes offered the most stubborn resistance to reduction.

The following table shows the disparity between farm taxes and other farm costs in their degree of adjustment to declining prices. Taxes moved sharply upward when prices came down, while all other costs fell, though not so far as did prices.

TABLE 9: INDEX NUMBERS OF PRICES RECEIVED BY FARMERS FOR THEIR PRODUCTS, FARM WAGES, COMPOSITE COSTS, AND FARM TAXES

(Source: National Industrial Conference Board, "The Agricultural Problem in the United States"; Table C, p. 157)

Year	Farm Prices	Farm Wages	Composite Costs	Taxes on Farm Property
1914	100	100	100	100
1919	205	203	174	112
1920	201	235	205	125
1923	132	164	163	201
1924	131	164	162	211
1925	144	166	168	212

The difficulty arises out of the fact that the bulk of farm taxes are levied, not upon income, but upon capital value, through the general property tax. When, therefore, income fell off while capital value remained relatively fixed, acute distress was felt. Land values, in the long run, must of course be adjusted to the earning power of the land, but

[1] National Industrial Conference Board, "The Agricultural Problem in the United States," *passim.*

meantime governmental expenses have to be met, and assessors are necessarily obdurate.

Taxes collected from the farms in 1920–1921 amounted to about 13 per cent of the farmers' net income and to nearly six times the total net farm profits.[1] In 1921–1922 there was considerable improvement in the agricultural situation generally, but taxes still absorbed 77.7 per cent of the total agricultural net profits. By 1925–1926 this had dropped to 30.4 per cent. During 1912, 1913, and 1914 taxes absorbed an average of 11.2 per cent of the total net farm profits; in the crop years 1923–1924, 1924–1925, and 1925–1926 taxes collected from farms averaged 33.1 per cent of the net farm profits.

A temporary check to the rising trend of farm taxation is indicated by the fact that the total amount of taxes collected from agriculture has hovered at about the same level for the last three years. Since the farmers pay little in Federal taxes, the reductions made by the Federal Government have affected them scarcely at all. The tax burden on other classes has been, on the whole, diminishing since 1920 while that of the farmers has been increasing. The general tendency of real incomes has been in just the opposite direction.

High Interest Rates

Among the fixed charges, interest on indebtedness and on working capital is next to taxes in importance to the farmer. The slow turnover in agriculture, or the high ratio of fixed charges to income, makes interest rates of extreme moment in the agricultural situation. This factor was of special significance in the agricultural depression accompanying the deflation period. Interest rates were raised to high levels under the pressure of war-time financial conditions, and the financial distress in the rural banking system following the deflation intensified the general stringency of agricultural credit.

[1] Net farm income represents gross farm income minus all expenses of production (including interest on indebtedness and rent paid to non-operators) before deduction of taxes. Net farm profits represent net farm income minus the value of the labor (at current rates for agricultural help) put into production by the farmer and his family, without deduction of taxes.

Interest rates to the American farmer, however, have in general been unnecessarily high. Rates on long-time mortgage loans, indeed, have generally been much more satisfactory than those on loans for current operations and the advent of the Federal Land Bank System in 1916 further improved the long-time loan situation. The ultimate lenders on farm mortgages have never obtained more than a reasonable return, but the cost of linking these lenders with the borrowing farmers has added considerably to the charges which the latter have had to pay. These charges have been reduced of recent years but there is still some room for improvement.

A far more serious difficulty has been the interest rate on short-time and intermediate loans. Under our system of little, numerous, and isolated banks the volume of business per bank in the rural districts is so small as to necessitate extremely high charges. The upshot is interest rates of 10% or more on credit for current operations. These rates are frequently concealed in commissions for making the loan, or in the conditions imposed, but the interest rate itself runs very high. It is difficult for agriculture to make headway in the face of interest charges such as this, especially when competitors in some foreign countries are provided with credit at lower rates.

A further defect in our credit system is the control of the activities of the borrower by the lender. This is especially true in the South where the necessitous condition of the typical farmer has taken from him all independence in the selection and marketing of his crops. Cotton is always saleable and there is a disposition on the part of lenders of production credit to insist that as large an acreage of cotton be planted as the conditions on the borrower's land will permit. Owing to the inadequate development of marketing facilities for other crops in the South, cotton is the one crop which offers a reasonable certainty of a quick sale and the repayment of the loan to the lender. Provided he can be sure of this the latter is not especially interested in what happens to the borrower. Some farmers have difficulty in keeping out of cotton enough land to raise their own food, granted that they are so disposed. There is no choice open to many

Southern farmers but to raise cotton and until this dominance of the lender over the borrower is broken the indigent farmer will be in a precarious situation.

Increase in Transportation Costs

Another harmful consequence of deflation to agriculture was the relative increase in the freight burden of the farmer which it caused. As the principal expenses of railroads are for wages and materials, freight rates necessarily follow the movement of wages. But as wages respond only slowly to a fall in the general price level, so also freight rates fall more slowly than the prices of primary commodities when deflation is under way. It was, therefore, inevitable that after deflation the farmer should have found himself with freight rates much more above pre-war level than the prices of agricultural commodities.

Unfortunately, it so happened that, as shown in Table 10, railroad freight rates, which, under the artificial conditions of government operation, had been kept relatively low all through the war period when other prices were rising, were greatly increased and brought up to about the level of the war prices just at that moment when the general price level, and with it the prices of agricultural commodities, were sharply falling.[1] Few deny that the increase in railroad freight rates was necessary. It may have been good policy or war-time necessity for the Government, during its period of operation of the railroads, to keep rates at a point at which enormous losses were piled up, but no one would expect the Government to assume responsibility for losses incurred after the roads were returned to their owners, and the owners could not be asked to accept rates which would lead to bankruptcy. Necessary as the rate increases were, therefore, they came at a peculiarly inopportune time. Farmers found themselves compelled to pay higher rates at the very moment that they were being forced to accept lower prices

[1] Freight rates were raised, in August, 1920, by 40 per cent in the Northeastern States, 35 per cent in the West, 25 per cent in the Far West and South, and 33⅓ per cent on intersectional freight. In 1922, they were reduced 10 per cent in all sections. Since then they have remained, in general, stationary. See H. S. Gabriel, "Freight Rates," *Farm Economics*, No. 11, p. 103, Feb., 1924.

for their products, and they sometimes found that the price received was insufficient even to cover the railroad's bill.

TABLE 10: INDEX NUMBERS SHOWING CHANGES IN RAILROAD FREIGHT RATES ON FIFTY REPRESENTATIVE AGRICULTURAL PRODUCTS

(1913 = 100)

Compiled by Division of Statistical and Historical Research, U. S. Department of Agriculture, *Yearbook*, 1926, p. 1248.

Year	Index	Year	Index
1913	100.0	1920	147.4
1914	99.4	1921	177.0
1915	100.2	1922	159.0
1916	100.6	1923	157.9
1917	101.3	1924	157.7
1918	117.1	1925	157.5
1919	130.8		

This situation gave support to the deep-grounded belief that freight charges fall on the farmer both on what he buys and on what he sells, for when freight charges were raised the farmer was not only unable to shift the increase to consumers, but could not even get as good a price as he had been obtaining before the increases went into effect. The fact is, of course, that there was at the moment no causal relationship between freight rates and other prices. Prices of farm products would almost certainly have gone down as far as they actually did if there had been no change in freight rates whatever, and might well have gone lower,[1] though such a fall in prices would of course have been easier to bear if it had not been accompanied by enhanced freight rates.

There is slight reason to suppose that under normal conditions the farmer is affected by freight rates in any way other than that which applies to producers in general, except that his producing establishment is fixed by nature in a given location and can not be set up at the spot which will give the most favorable conjunction of freight charges.

In the long run the consumer of agricultural products must pay a price sufficient to cover the costs of production (including transportation) on the most remote land which

[1] Since the increase in freight rates presumably had some effect in curtailing the volume sent to market.

remains permanently in cultivation. This land will ordinarily have a low valuation and the operator will be able to save on his capital charges approximately the differential which he pays in freight. His better-located competitors, on the other hand, will have capital charges increased by approximately the worth of their superior locations. If the bulk of the producers are located far from the market, the principal weight of transportation charges will be on the producer, but the consumer will be paying enough to make it worth while for the producer to "absorb" these charges. The farmer does not, therefore, as a regular thing, suffer under any peculiar disability from freight charges.

While all this is true normally, and in the long run, the slow adjustments typical of agriculture frequently tend to postpone the realization of the normal incidence of freight charges. Once a district is settled with farmers, their traffic will, for a time, bear very heavy charges without tending to be withdrawn. The individual farmer, in the effort to make ends meet, may even increase production and shipments when the freight charge is increased and, so long as the number of farmers is not reduced (and this reduction takes place only slowly), farmers may bear all or even more than the full burden of an increase in freight rates. The conjunction of rising freight rates with falling prices of agricultural products in 1920, therefore, imposed a heavy burden on the farmer, and from this he only slowly recovers.

Relatively heavier freight charges than those which have previously been in effect, even if evenly distributed, have the further consequence of tending to dislocate the competitive position of different producers and sections. A general increase in rates operates to the relative and, in time, to the absolute advantage of those producers who are situated close to the consuming markets and to the corresponding disadvantage of those who are farther away. As regards agriculture in this country, this means that, as a result of the increase in freight rates, the Eastern sections of the country have secured some advantage over the Western. As the bulk of agriculture is in the West, this has on the whole been a distinctly adverse phenomenon, but it goes to explain the relative prosperity of Eastern agriculture in recent years.

With regard to the export trade a change in the ratio of ocean to American rail rates has put the American inland producer at a present disadvantage, relatively to the pre-war and war periods, in his competition with foreigners, notably Argentina and Australia, the bulk of whose transportation costs are incurred for water transport, which is now but little more expensive than it was in 1913. As is shown in Table 11, ocean freight rates, like railroad rates, were very much higher in the post-war years 1919, 1920 and 1921 than in earlier years or thereafter.

TABLE 11: INDEX NUMBERS OF FULL CARGO OCEAN RATES

(Average 1911–1913 = 100)

Compiled by U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, *Commerce Reports*, August 28, 1922, p. 615, February 12, 1923, p. 444, and May 9, 1927, p. 372.

Year	Index	Year	Index
1911–1913	100	1922	114
1919	384	1923	108
1920	272	1924	106
1921	160	1925	99
		1926	102

In connection with water transportation the Panama Canal has imposed an additional competitive handicap on the middle-western farmer and has worked to the relative advantage of those near the two coasts, particularly the Pacific.

HIGH COST OF DISTRIBUTION OF FARM PRODUCTS

The problem of the distribution of farm products has, of course, become one of pressing and continuous importance in the agricultural situation with the rapid commercialization of agriculture, the growth of urban population and the increasing distance between the farmer and his markets. But in periods of deflation and drastic decline in farm prices, such as that following the war, the problem has been intensified. Distribution costs reflect not only excessive spoilage and loss when markets are glutted, but in large part the wages of workers in transportation and in urban occupations, which, as has been noted, are slow in readjusting themselves to changes in price levels.

It would be difficult to prove that under normal conditions the high cost of distribution of farm products falls in any very great degree upon the farmer. There are times, of course, in the case of certain crops, notably fruit, when the price received at retail will not pay the costs of marketing. In the main, however, the cost of distribution must fall on the consumer. The benefit which the farmer might get from a lowering of distribution costs would be through an expansion of demand which would, for a time, raise the prices received on the farm. In the long run, however, any cheapening of the cost of distribution is likely to go to the consumer in a lowered retail price. None the less, a relatively rising cost of distribution, by checking demand, may keep farm prices low for a considerable period of time, and a relatively falling cost of distribution, by increasing demand, may result in raising them for a considerable period, or even permanently, if they had hitherto been abnormally low.

The spread between prices on the farm and prices at retail is much greater in the United States than in European countries. There are several reasons for this, among the most important being the following:

(1) Wages are higher in the United States. In the *growing* of farm products the higher wages are offset by greater productivity per worker engaged, but in *marketing* there is no such disparity in productivity here and abroad, and the higher wages are therefore reflected in higher cost per unit of goods distributed and a higher percentage of distribution costs to total costs. High and sustained urban wage levels during and after the war therefore meant relatively high costs of distribution at a time when prices fell.

(2) The cost of transportation is relatively great in the United States. This is not because freight rates are relatively heavy (the contrary is indeed the case), but because, on the average, farm products are carried much greater distances than in Europe. Our markets are frequently thousands of miles distant from the place of production even when the products are consumed at home, and when they are consumed abroad expensive transhipment costs are added to the greater carriage charges. The relative increase in transportation charges in the deflation period, already noted,

meant relatively greater distribution costs, part of which fell, at least temporarily, upon the farmer.

(3) The loss from spoilage is very great, owing to the long freight hauls involved and the changeable character of our climate.

(4) The American consumer demands and receives more service than is usual abroad and for this he has to pay the price. These demands have been increased by the relatively high urban prosperity since the war.

But though all this may be said in justification of our high costs of distribution, it nevertheless does not seem a quite adequate explanation of them. There is a good deal of eliminable waste in the present practices in marketing and costs can be reduced in some, if not a very large, measure.

Restriction of Immigration

The effect of the restriction of immigration on agriculture cannot be determined with any approach to accuracy. The factors affecting prices and wages during the period of restriction have been so varied and so strong, in some cases reinforcing, and in others counteracting, any effects that restriction might be supposed to have, that an attempt to assess the quantitative importance of the effect of restriction is certain to fail. All that can be done is to indicate, on grounds of general reasoning, the probable trend.

It should be noted that the war, and the post-war nationalism in Europe, more drastically restricted immigration than did the Quota Act. Quota restriction was inaugurated in May, 1921, and has since been continued and further extended, especially in the Act of May 26, 1924. There was a large influx of immigrants immediately prior to restriction but, with the exception of 1921, there was no year from 1914 to the passage of the Act when the volume of net immigration approached the figures which have been attained since the restriction went into effect. Whatever the effects of the decline in immigration upon agriculture, therefore, it is clear that they are part of a long-standing condition which it has faced since before the war. Quota legislation merely prolonged or made permanent a situation which had been in practical effect for seven years. The essential questions

regarding the effects of the smaller influx of immigrants upon the position of American agriculture concern its influence upon the supply and demand of farm products, upon the costs of production as related to the supply and wages of farm workers, and upon the quality of our farmers.

Of the immigration coming to this country in recent decades, agriculture seems to have drawn a disproportionately small share. The following table shows the percentage of foreign-born to the total number engaged in nine general divisions of occupations, according to the census of 1920:

TABLE 12: PERCENTAGE OF FOREIGN-BORN TO TOTAL NUMBER EMPLOYED IN SELECTED INDUSTRIES

Source: Fourteenth Census of the United States, 1920, Vol. IV, "Census of Occupations," pp. 34, 341.

Occupation	Percentage of Foreign-Born to Total Number Employed
Agriculture, forestry and animal husbandry	8.5
Manufacturing and mechanical industries	28.4
Extraction of metals	34.6
Transportation	17.9
Clerical occupations	8.5
Domestic and personal service	22.6
Professional service	10.8
Public service	16.5
Trade	20.3

It will be seen that agriculture shares with the clerical occupations the position of having the smallest percentage of foreign-born to total workers of any of the great divisions of industry. The restriction of immigration, therefore, has probably reduced the total numbers occupied in urban industries more than it has those engaged in farming. If in the pre-war period immigrants had been going into the various industries and occupations in precise proportion to the total numbers engaged at that time in each of these industries and occupations, it is likely that restriction would have curtailed agricultural supply and demand in the same degree and would therefore, from this viewpoint, have been of no effect on the prices of farm products. But, as during all of the last decades the bulk of our immigrants went into urban occupations where they became consumers of farm products, while only comparatively few immigrants went to farms where they became agricultural producers, it is reason-

able to assume that immigration restrction has curtailed the markets for farm products in our cities more than it has curtailed production on farms. If during recent years no restriction had been in effect, it is likely that our cities would contain today a few million more consumers of farm products than they do, while our acreage under cultivation would probably have increased relatively little. Moreover, it must be remembered that in so far as the immigration of recent decades had been drawing chiefly upon European agricultural workers and diverting them to American manufacturing industries, they had ceased to be competitors of American farmers in the foreign market and had become customers at home, with greatly enhanced purchasing power. Finally, American immigration restriction has diverted a stream of good immigrant farmers from the United States to Canada, the Argentine, or Australia, where, on the basis of virgin land resources, they are becoming competitors of the American farmer. In all these ways it is likely that immigration restriction has in some degree aggravated the surplus problem in American agriculture.

Although a relatively small proportion of our immigrants in the pre-war period took up farming, immigration restriction has probably tended to curtail the supply of farm labor and to increase labor costs to the farmer. The bulk of the immigrants who came during the last decades were of the common labor type, and a fair number of these newcomers became farm hands. Before the war, therefore, the farmer, so far as he employed labor, enjoyed the advantage of a plentiful and cheap supply of common labor. Immigration restriction changed this situation. Since its inception this class of labor has constantly diminished. Wage levels in this and other groups of urban workers have risen through the increased productivity of industry, living standards of the urban population have risen, and increasing numbers of immigrants have returned to their native countries. It is, therefore, only natural that since restriction the wages of farm labor in this country should have a strongly rising tendency which, of course, is disadvantageous for those farmers who employ labor.

Rising urban wage levels have probably also affected the

farmers' costs by increasing the costs of distribution and transportation, and possibly also by increasing the demand for capital in urban industries to offset rising wage costs, and so keeping interest rates high. These effects are, however, only partly due directly to immigration restriction in itself. This restriction doubtless stimulated the introduction of labor saving methods and increased efficiency in manufacturing industries, which in turn enhanced the productivity of urban workers and made higher wages possible.

To some degree, doubtless, the increased purchasing power of the urban population as a result of these conditions has offset the relative decrease in the number of urban consumers which accompanied immigration restriction. Moreover, it should be kept in mind that the higher wage levels of farm labor probably find at least some reflection also in the reward which the farmer receives for his own and his family's labor and to that extent restriction has been of advantage to the farmer. But since, in the income of the individual farm operator, the reward for his personal labor, interest on investment and compensation for management are not clearly separable, there is no way of gauging the degree in which the individual farm operator has been benefited by this rise in the wage rate of common labor. Immigration restriction, however, has undoubtedly been of benefit to farm labor as such by raising its wage scale, and in any study of agriculture in general it is important not to forget the interest of this large class.

In considering the effects of immigration and restriction of immigration on American agriculture, however, it will not suffice merely to consider the bare figures of the decline in immigration or of the proportion of foreign born in our agriculture. None of these figures are more than indications of certain phases. One of the most significant effects of restriction in immigration will hardly be registered in a census report or, indeed, be gathered from the reading of statistical compilations. There are values and forces involved which cannot be reduced to precise measurement. Throughout, the effort to determine the comparative economic position of industrialist and farmer is beset by the difficulty of gauging incidental or intangible advantages or

disadvantages. The material yardstick is not adapted to measure social or even sentimental values, and these unquestionably constitute a most substantial factor in the choice between industrial and agricultural pursuit.

Similarly, in taking account of the effects of restricted immigration it is not only a question of the number that may be excluded, but very largely whether we are robbing ourselves of men and women of character who would fit into our system and who not only are denied the privilege to give us support but are driven to reinforce our most successful competitors in foreign markets. The mere number of persons who leave our farms may be of little moment. Their going may, indeed, be a decided advantage, if they leave the farm in obedience to a natural process of elimination of the less competent or desirable. The real question is, are conditions such as to force competent and willing farmers to abandon the land. For the same reason the question presented by restriction of immigration is not so much how many may be excluded, but whether that number embraces elements that would become a wholesome contribution toward the maintenance of sound and successful agricultural pursuit. The census may show that a surprisingly small percentage of our later immigration has gone to the farm. That showing is not so disturbing if it should appear that an exceptionally large percentage of those who did go ultimately became proprietors. That there is reason for such a supposition is made apparent by census figures which show the proportion of farms now owned and cultivated by persons who are not native born.[1] It is, therefore, a question of great moment to what extent the stabilization of the farming communities has been maintained by citizenship of immigrant origin. Still further, no reliable estimate of these comparative values will be had, until investigation tells us how these ele-

[1] According to the census of 1920 in the country as a whole 79.9 per cent of the foreign-born white farmers were owners while for the native white farmers this figure was only 65.6 per cent. It should, however, be noted that "the higher proportion of owners among foreign-born than among native white farmers is due principally to the fact that the majority of the foreign-born white farmers have been in this country for some length of time, and hence the class includes relatively few young men who are renting land as a step to ownership, whereas a considerable portion of the native white farmers are tenants of this type." (Fourteenth census of the United States, 1920, Vol. V, "Agriculture," p. 295.)

ments have responded to agricultural distress, and to what extent they have anticipated actual calamity by living within their means, and by avoiding the unhappy consequences of speculation in land. It would be necessary to know who are the farmers that have most readily and successfully accepted the inevitable burden of greater diversification and efficient production and in what measure we are indebted to this or that element for the benefit of foreign experience in actual care and cultivation of the soil.

Upon all these questions it is not, on the one hand, possible to express convictions because the facts are not available, but it is, on the other hand, possible to avoid the consequences of hasty conclusions based upon mere numbers. One observation, however, seems unavoidable. If restriction of immigration is to be our accepted policy, then it should rest upon the test of merit and not be determined by the accident of geographical division. Mere distance in the separation of countries has been conquered by invention. Our relation to some countries far removed is more close than it is to others near by. A broad and generous policy would seem at least to welcome those newcomers who may promise to become an integral part of our institutions, and who are perhaps peculiarly endowed to follow the one great pursuit which is now the subject of our particular concern.

From this point of view it may be seriously questioned whether the exemption from quota restriction of immigrants from American countries was wise or desirable. There is a considerable and increasing volume of immigration of low standard labor from Mexico, most of which enters agriculture, especially cotton production, sugar beet growing and the raising of fruits and vegetables. From the point of view of the farmer employing this labor this movement is immediately advantageous, but it clearly tends to lower the returns of competing native producers and probably makes for uneconomic utilization of our land resources. If the more desirable types of farmers are to be excluded, it would appear to be advisable at least to restrict the entrance of those types which do not make for the long-run interests of our agriculture as a whole.

Shift to a Creditor Status in International Transactions

Another change, the effects of which are incapable of accurate measurement, but which has doubtless played its part in the existing depression of agriculture, is our shift from the status of a debtor in our international accounts to that of a creditor. Prior to the war, the United States, which had been a large borrower from Europe for many decades, had an annual interest bill of approximately $160,000,000 to be paid to foreign lenders. This was to some extent offset by new annual borrowings amounting to some $52,000,000 yearly, on the average, but it was necessary to develop an excess of merchandise exports to take care of the balance, as well as to offset certain net debits for services rendered to us by foreigners. The automatic play of prices in international trade brought about this excess of exports, and in it our exports of farm products played an important, though even then diminishing, part.

The repurchase during the war of perhaps two billion dollars' worth of our securities hitherto held in Europe, together with the huge loans floated in this country by the Allies, reversed the situation, eliminated the necessity of exports to take care of interest payments, and laid the basis for an excess of imports in the future, to take care of interest and amortization of foreign debts to us. The supplanting of foreign ships by American carriers also operated to reduce the ratio of merchandise exports to imports. Exports of merchandise had formerly been necessary to pay for these shipping services. In so far as we now perform these services for ourselves, the export trades have tended to suffer. In view of these conditions, the pre-war excess of exports could not be sustained without increased purchases of goods or services from abroad or further lending to other countries.

The obstacles to our export trade resulting from this shift from a debtor to a creditor status affected American agriculture more than other exporting industries, because of its weaker competitive position growing out of other factors discussed in this chapter. The full effects of the change, however, have so far been prevented from developing by

reason of the enormous export of private capital which has marked the past few years, and to a degree by the enormously increased purchase of services abroad by American travellers. At the moment, our exports are stimulated by foreign loans and by the transfer of American purchasing power abroad, and to this we owe part of such recovery of agricultural prices as has taken place in recent years. Ultimately, however, when interest and amortization payments on our foreign investments begin to exceed the annual volume of new flotations, an excess of imports is inevitable, and in this readjustment our export trade in agricultural products is likely to suffer more than other export trades.

Tariff Policy

This is little doubt that the steady extension of tariff protection to manufacturing industries, and particularly the increase in the tariff level in post-war years, has on the whole affected agriculture unfavorably in comparison with manufacturing industry. This question will be discussed more fully in connection with measures for agricultural improvement in Chapter IV. Here it is necessary only to point out certain general considerations which are of importance in relation to the factors in the agricultural situation.

In the long run the chief permanent effect on agriculture of tariffs devoted mainly to the encouragement of manufactures would be a restriction of the acreage in crops and a lessening of the values of farm lands. Such tariffs tend to divert labor and capital which would otherwise have gone into agriculture to the production of protected manufactures, and to prevent, in other countries, so large a shift from agriculture to manufacture as would otherwise have taken place. So far as agriculture is overexpanded and manufacturing underdeveloped, as they were in the early years of our history, this result would be beneficial. The foreign market for farm products would be reduced by restriction of imports, but the domestic supply would tend to be diminished and the domestic demand relatively increased by the flow of labor to urban industries. Under a system such as ours, there would be more manufacturing and less farming than

if protection to manufactures were not given, but the return to the farmer for his labor, as opposed to his return as landlord, once adjustment has been made to tariff changes, would presumably bear the same relation to the rewards of other types of producers as it had before the change was made. In the long run, therefore, the influence of any tariff ought gradually to become evenly diffused among all industries. The ebb and flow of labor and capital from one industry to another would operate to bring this result to pass.

It may, however, be questioned whether, in fact, matters have adjusted themselves as equitably or fairly as this reasoning assumes. Certainly for a time after the imposition or any sharp increase of tariff protection to manufactures, the real labor return in agriculture can scarcely fail to undergo a relative and even an absolute reduction. Prices of farm products cannot rise as a result of such a tariff, but they may readily fall. The tendency of protection is to increase the general price level in the protecting country and to lower it abroad, while the prices of exports are determined in large measure by conditions in foreign markets and therefore tend to fall with a general fall in prices in foreign countries. Agriculture has expanded in this country without regard to the adjustment of returns in the several industries each to the other. In the absence of protection to manufactures, agriculture would probably not have expanded at a much faster rate, but the export market for farm products would have been considerably better. This would have meant better prices for farm products without a proportional increase in land values. On the other hand, with a rise in the general price level in the country levying the duty, not only do the prices of the protected goods tend to rise, but the same is true of the prices of all other products not exported. The farmer thus tends to lose immediately, both as a producer and as a consumer. On the whole, therefore, it may be assumed that agriculture has tended somewhat tardily to share equally with other industries such benefit or detriment as the protective tariff has conferred.

It is, however, any *increase* in duties on manufactured goods, rather than the tariff as such, which is peculiarly harmful to agriculture. If the tariff on those manufactured

goods which it seemed desirable to produce in this country had been set at a certain level in the beginning and kept unchanged until it was determined whether or not those industries were able to become self-sustaining, agriculture would not have suffered very greatly. But the increase in rates, step by step, from the Civil War to the World War[1] kept agriculture in a constant process of adjustment. Recovery from one stepping up of the rates could not be attained before another went into effect.

The increase in rates put into effect in post-war years, combined with the shift of the United States from a debtor to a creditor status, undoubtedly contributed to the depression in agriculture. It could not, of course, have caused the depression, which was well under way before that increase went into effect, but it has no doubt made recovery more difficult, though it is impossible to measure with any degree of precision the quantitative importance of this factor. In the Tariff Act of 1922 there were almost no decreases in the rates on such manufactured goods as we would import in the absence of a duty. The lowering of the duty on goods which we export had, of course, no practical effect. This is also true of the raising of duties on such goods, and with some exceptions[2] the statement is applicable to those increases in the duties on exportable agricultural commodities which the Act carried. But the almost universal increases in the rates on manufactured goods were more effective. In so far as the increased rates on importable manufactured goods excluded these goods, or reduced the imports below what they would otherwise have been, they reduced the foreign purchasing power, which was depressed by the post-war exhaustion of Europe and by the tremendous indebtedness of these countries to the United States, but which might have been directed in some measure toward our exportable agricultural products. Like the increase in railroad rates, this raising of the tariff came at a time very inopportune to the farmer. An increase in the degree of protection, so far as it is real and not a mere raising of rates already completely protective, cannot

[1] With minor exceptions in 1872 and 1894. In 1913 the first substantial reduction was effected.

[2] Such as wheat, some varieties of which we import, though we have a net export of wheat in general.

fail to have an adverse effect on some exporting industries, and in the case of the Tariff Act of 1922 it seems probable that agriculture bore the brunt of this readjustment.

Decline in European Demand

The unfavorable conditions which faced the export markets for farm products as a result of our shift to a creditor status and the increase in our tariffs after the war were accompanied and intensified by a marked falling off in European demand, due to the decline in purchasing power and the increased domestic production of the principal consuming countries.

In the case of foodstuffs, any decrease in demand under such circumstances tends to be concentrated upon the more expensive articles of food, since consumption is diverted to the cheapest materials available. This has hit our exports very hard. The diminished demand does not show very clearly in the figures of total consumption, since if production is not quickly adjusted to diminished demand, consumption may continue unchanged, though at greatly reduced prices. In the countries whose purchasing power has been most reduced, the volume of consumption may tend to fall because, even at very low prices, people cannot afford to consume as much food as formerly, nor food of as good quality. But in countries poorer than they had formerly been, although not impoverished, the general decline in purchasing power may lead to lower prices but to no restriction in the volume of consumption of food products of any type. Whatever may have been the various subordinate effects, there can be little doubt that a lowered purchasing power in Europe struck a severe blow at the prices of the great staple food products in which the American farmer is most interested.

Decline in Domestic Consumption

Despite such stimulus to the domestic market as might have been expected from the normal operation of our tariff policy, the adverse influences upon the foreign market for farm products discussed in preceding sections have been

accompanied by the relative decline in consumption of some farm products which has been proceeding for a long period. Not that consumption is absolutely falling; as our population grows on an average by about 1½ per cent annually, it is obvious that the total consumption of farm products must in general increase. But in the past few decades several forces have been at work which have tended relatively to curtail the domestic market for farm products. These are: (1) the declining per capita consumption of certain foods (2) the substitution of mechanical for animal power, (3) changes in clothing habits and the use of artificial textiles.

During the past few decades there has been a tendency for the per capita consumption of some of our most important farm products, such as wheat, corn meal, beef, and lamb (mutton) to decline. This is probably due partly to the urbanization of the population, partly to changes in dietetic ideas, and partly to the gradual elimination of human labor in the performance of heavy tasks. Urbanization alone makes for far-reaching changes in food consumption. The price of foodstuffs for the city consumer is dear relatively to that of other commodities. The increasing preparation of foods in the restaurant and their processing in factories tend to reduce the actual quantity consumed. Dietetic education and sedentary occupations tend to decrease the consumption of certain kinds of staple foods. These factors, together with the fact that by the use of labor saving devices generally fewer foot pounds of human energy are now required to perform a given amount of work than formerly, tend to cut down the consumption of energy-building food. The relative, and since 1910, absolute decline in the agricultural working force is probably significant, since a typical farmer may perhaps be assumed to consume more of the important American farm products than the typical urban worker. Grains are probably being supplanted in some degree by sugar, the consumption of which in recent years is rapidly increasing, and most of which is imported. The effects of these changes are reflected in the following tables which give the per capita consumption of wheat flour, corn meal, beef, lamb (mutton), pork, and veal in the United States during the last decades.

TABLE 13: APPARENT CONSUMPTION OF WHEAT FLOUR AND CORN MEAL, 1889–1923

(In Barrels per Capita)

Source: Food Research Institute, *Wheat Studies*, Vol. II, p. 279, July, 1926.

	Wheat Flour	Corn Meal
1889	1.148	0.597
1899	1.134	0.527
1904	1.131	0.390
1909	1.073	0.295
1914	1.071	0.210
1919	1.016	0.129
1921	0.889	0.130
1923	0.891	0.139

TABLE 14: CONSUMPTION OF MEAT, 1907–1926

(In Pounds)

Source: U. S. Department of Agriculture, *Yearbook*, 1926, p. 1145.

	Beef	Lamb and Mutton	Pork (not Including Lard)	Veal	Total Meat
1907	77.5	6.4	67.7	7.4	159.0
1908	71.5	6.3	70.0	7.0	154.8
1909	75.4	6.6	60.1	7.5	149.6
1910	71.1	6.4	57.1	7.4	142.0
1911	67.7	7.8	64.5	7.0	147.0
1912	61.1	8.1	61.8	7.0	138.0
1913	60.6	7.5	63.0	5.0	136.1
1914	58.4	7.4	62.3	4.4	132.5
1915	54.5	6.3	59.5	4.3	124.6
1916	56.0	6.1	60.1	5.3	127.5
1917	59.5	4.6	49.3	6.5	119.9
1918	63.0	4.7	54.8	7.4	129.9
1919	61.6	5.8	54.8	7.7	129.9
1920	63.1	5.5	60.5	7.6	136.7
1921	56.9	5.9	63.9	7.0	133.3
1922	60.4	5.0	66.1	7.3	138.8
1923	61.3	5.2	74.7	7.8	149.0
1924	61.5	5.2	74.7	8.2	149.6
1925	62.1	5.2	67.6	8.7	143.6
1926	63.4	5.5	65.7	8.2	142.8

Prohibition may have contributed to the decline in the consumption of farm products in so far as it has restricted the consumption of certain cereals, especially barley, corn, and rice, for the manufacture of alcoholic beverages. This factor should not be overestimated, however, as hardly more than 1 or 2 per cent of our total production of grains was used for such purposes. Furthermore, it is likely that agriculture as a whole has been at least partly compensated for this decline in consumption of cereals, as far as it is due to prohibition, by

the increase in demand for dairy products which is noticeable during the past few decades.

Of far greater influence on agriculture has been the replacement of horses by motor vehicles in cities as well as on farms. The following table shows the extent of this decline in the number of horses, one of the most important consumers of farm products:

TABLE 15: NUMBER OF HORSES IN THE UNITED STATES
(In Thousands)
Source: "Statistical Abstract of the United States," 1925, p. 609.

	1910	1920	1925	Decrease 1910 to 1920	Decrease 1920 to 1925	Decrease 1910 to 1925
On farms	19,833	19,767	16,536	66	3,231	3,297
Not on farms	3,183	1,706	1,177[1]	1,477	529	2,006
Total	23,016	21,473	17,713	1,543	3,760	5,303

[1] Estimated from decrease in Ohio; *The Bimonthly Bulletin*, Ohio Agricultural Experiment Station, Vol. XII, No. 1.

As under our average crop yields at least three acres of land are necessary to grow the hay, oats, and corn required for feeding one horse during one year,[1] it will be seen that the disappearance of more than 5 million horses since 1910 has permanently released at least 15 million acres of crop land (out of a total of approximately 365 million acres). To this must be added the acreage which has been released by the decline in the number of other livestock on farms. This enormous release of acreage, part of which has been turned to production for the market, has undoubtedly added to the surplus problem in American agriculture. Moreover, it must be remembered that the substitution of mechanical for animal power has not only eliminated a large number of animal consumers, and thus relatively increased the product to be marketed, but has made the farmer more dependent upon sale of his product to secure cash with which to purchase his new motive power.

It seems certain that this development will continue. In 1925 the number of tractors on farms was only 506,745 while the total number of farms is about 6,370,000. As, however,

[1] See *Bimonthly Bulletin*, Ohio Agricultural Experiment Station, Vol. XII, No. 1.

tractor power is, at least on larger farms, generally more economical than horse power, it is to be expected that the number of horses on farms will continue to decrease on a large scale and that a considerable additional amount of crop acreage will thereby be released.

During recent years, the consumption of cotton and wool has been adversely affected by the rapid growth of the rayon and allied industries which utilize cellulose as their raw material. To this must be added the effect of changing clothing habits and fashions, which have reduced the per capita consumption of cotton and wool for wearing apparel. It is not possible to estimate the quantities of farm products which have been released in this way but the total for the whole country is probably far from insignificant. To a degree this factor has probably been offset by enhanced urban living standards which have made for the larger and more rapid consumption of textiles in which some cotton and wool are used, and the increased industrial use of cotton and wool in connection with tires, tops, and upholstery of automobiles.

Overexpansion of Acreage

Just as our immigration restriction policy, our shift to a creditor status, increases in our tariffs, and a decline in the purchasing power of foreign markets for our farm products after the war came at the end of a long period of declining domestic consumption, so all these unfavorable influences together operated in the face of a persistent overexpansion of farm acreage. This overexpansion was emphasized during the war but had been going on for a much longer period, under the stimulus of land booms and land settlement policies. The past hundred years have seen the rapid opening up and exploitation of most of the vast area of agricultural land with which this country was endowed. Under the influence of a high native birth rate and a large immigration from Europe the number of farms grew by leaps and bounds. This rapid occupation of an empty continent has been accompanied by a constant succession of land booms, or better, by a continuous boom in agricultural land, which has made for persistent overexpansion. The policy of the Federal and

local governments in making practically a gift of new lands to settlers and the influence of private interests in stimulating land settlement have tended to increase or sustain this over-expansion. Though, in the last few decades, the Government has had little good land to give away, land booms have by no means ceased. Every sparsely settled section of the country has been interested in getting people on the land; railroads have sought to attract settlers to the territory along their lines, both for the sake of selling the land which they own and for the traffic that they can confidently count upon, and real estate dealers have endeavored to develop their business with slight regard for the long run interest of the buyer. The whole business has been carried on in an atmosphere of optimism and men have been induced to settle upon land which, under existing conditions, offers no reasonable prospect of a decent living. The settlers have struggled along and have not only themselves been in straits but have added to the difficulties of all their competitors. Such crops as they raise, a considerable volume in the aggregate, are a constant drag upon an inelastic market. The area of crop land has been increased still further by government or private reclamation projects, and though these have not yet brought a significantly large acreage into cultivation, they have added their mite.

In older sections the activities of land dealers have done much to force up the price of land. It is frequently asserted that a farm heavily mortgaged is worth more than equally good unencumbered land. It is alleged that it is easier to sell the former than the latter since the buyer has merely to put up a small amount of cash and assume the mortgage which has already been laid upon the property. There seems also to be some tendency to gauge the value of a piece of property by the amount the owner has been able to borrow on it. As a result of these causes land has usually sold at a price on which it was impossible for a normally capable farmer to earn a labor return equivalent to the current rate of wages for similar labor in other occupations. Reliance was placed on a constantly increasing value, though there is nothing inevitable about a rise in land values even in a country the population of which is rapidly increasing. The break-down of the former

isolation of producing areas which was characteristic of the 19th century, effected a great shifting in land values, tending to raise them in the newer sections and lower them in the old. The opening up of our West reduced land values in England and in our own Eastern States, and the mid-Western and South-Eastern States are now subject to similar, though probably not so important, influences, as a result of the opening up of newer areas both at home and abroad. Even when all fertile lands have been settled, a general improvement in yields per acre might, by causing a disproportionate drop in prices, lead to a fall in the value of lands.

The prevailing optimism regarding land values has had much to do with their actual rise. The prices at which land has sold in this country were not justified by yields, but as long as values were rising, investment in land was generally profitable. For long periods the rise in land values appears to have been sustained largely by its own momentum. This meant gains for some farmers and losses for others but it was of no value to the industry as a whole. Profits could be realized only by selling out and thus transferring the burden of meeting fixed charges out of an inadequate income from the shoulders of the man who was retiring from the industry to those of him who was entering it.

It is clear that the overexpansion of our agricultural area due to all these forces is to a large extent responsible for the present agricultural difficulties. The expansion of our urban markets for farm products, rapid as it was, yet always lagged behind the expansion of our agricultural area. And the necessary adjustment between these two factors has not yet been completed although it is evidently in process, as is shown by the declining per capita acreage of land in farms and in crops. But despite this decline the unfavorable factors which have affected foreign and domestic demand in the past few decades, have made the relative expansion of acreage persist. Moreover, it is to be remembered that the maladjustment between farm production and consumer demand was further aggravated by the fact that during most of this time, and especially in recent decades, a similar agricultural expansion has taken place in other important agricultural countries of the world, such as Canada, the Argentine, and Australia.

Increasing Yields per Acre and per Worker

The overexpansion of agricultural production due to overextension of acreage in the face of relatively declining demand was further aggravated by the progressive invention of farm machinery and the introduction of more scientific production methods, both of which resulted in a great increase of yields per acre and per worker. Such increase is in itself obviously desirable as it means greater efficiency of the industry, but, unless accompanied by a proportionate expansion of markets or a reduction in the number of farmers, it throws the relation between supply and demand out of balance. Increased yields per acre and per worker are likely to be accompanied by a more than proportionate fall in the prices of the products of the farm, because neither the demand nor the supply of farm products responds readily to changes in price. A general improvement in yield means a greatly increased total production and a sharp fall in price unless the number of farmers is proportionately reduced or new markets are found, and this reduction in numbers or expansion of markets does not come until prices have remained low for a considerable period. In the long run, time having been given for the adjustment of the number of producers to the demand, the farmer should not lose anything as a result of general improvements in the production of farm products. He will tend to gain as a consumer from coincident improvements in other industries and will thus get his share of the national gain in productivity. But these developments take time to work themselves out, and meanwhile, if yields per acre and per man grow steadily, the constant succession of improvements may keep the farmer permanently underpaid. The effect of improvements on the welfare of the American farmer depends in part upon how far he can keep in advance of foreign competition and in part on the rapidity of adjustment of the number of farmers to increased productivity per man.

Depletion of the Soil and Erosion

The overexpansion of production in the face of relatively declining markets, together with the increased dependence of the farmer upon markets, has doubtless contributed to

exploitation and wasteful use of soil resources. The progressive deterioration of our farm lands in this process has in turn meant increased difficulties for agriculture, to say nothing of the national injury involved. Although by scientific methods of soil treatment, especially by crop rotation and fertilization, it is today possible to carry on agriculture without diminishing the fertility of the soil, it is certain that, under the pressure for immediate return, our farmers have in most cases neglected the adequate use of these methods and the fertility of our farm lands has generally declined. The tendency is not capable of accurate statistical measurement and conditions vary greatly in the different parts of the country. The one-crop grain and cotton regions undoubtedly show a much larger decline in fertility than livestock districts. Nevertheless, the figures in the following table give at least a rough indication of this depletion of the fertility of our land:

TABLE 16: ANNUAL LOSS OF PLANT FOOD BY REMOVAL OF STAPLE CROPS

Source: National Industrial Conference Board: "The Agricultural Problem in the United States," pp. 135 and 136.

	Tons	Tons
Amount of plant food absorbed by crops removed		8,500,000
Returned by legume crops, animal manures, etc.	4,400,000	
Returned by commercial fertilizers	1,200,000	
Total plant food returned		5,600,000
Annual net loss of plant food		2,900,000

It will be seen that over the country as a whole only about two-thirds of the plant food taken out of the soil every year by crops is returned, a condition which ultimately must lead to depletion of the land.

Of still greater importance is the loss by erosion. It is estimated[1] that every year 1½ billion tons of soil material are removed by erosion and with it about 60 million tons of plant food. Though these figures, too, cannot presume to be exact, they indicate the trend. By a comparison with the figures given in Table 16, it will be seen that the loss of plant food by erosion (most of this being sheet rather than gully erosion) is more than twenty times as great as the loss through absorp-

[1] By H. H. Bennett, Bureau of Soils, U. S. Department of Agriculture.

tion by plants. In the long run erosion is of superlative importance, but it receives comparatively little attention owing to the fact that yields are not greatly diminished until the humus layer is well on the way to exhaustion. The depletion of essential plant foods, through cropping, leads to a cumulative and readily recognizable decline in yields, but soil wastage by erosion, which every year carries away a layer of the surface soil on all areas devoted to cultivated crops, does not appear clearly until the soil grows too thin to furnish adequate nourishment to plants. Unlike the exhaustion of individual elements in the soil, this damage is irreparable, although in large part it can be prevented by proper methods of cultivation and drainage and by flood control, together with reforestation.

The unavoidable result of this deterioration of the soil is lower yields per acre than would prevail without this factor. The increases in yield made possible by more scientific producing methods are in part wiped out by the progressive exhaustion of the soil, and agricultural costs are therefore steadily increased. Under existing conditions it often may not pay the farmer to use his land conservatively. This is an intricate matter of prices and interest rates, but whatever may be the facts with regard to the costs involved, most farmers seem to be dealing with the question in a manner which involves ultimate exhaustion of the land. A large part of the responsibility for this exhaustive type of agriculture is attributable to tenancy. A tenant farmer often is so loosely connected with his land that he has no interest in the maintenance of soil fertility. The temptation to use exhaustive methods is the greater, the shorter the period of occupancy of a farm. As in certain parts of the South about two-thirds of the farms are operated by tenants and as approximately one-third of the tenant farmers change their place every year, it is obvious that the problem of soil conservation on all of these tenant farms is a serious one.

But the problem is by no means confined to tenant farmers. Many owners also are seriously deficient in maintaining the fertility of their land. This is in part due to historical influences. In the early periods of settlement of virgin land a "mining" type of agriculture is always carried on and is per-

haps to a certain extent justifiable. This stage has not yet been overcome by a large part of our farmers. But the problem has so serious consequences from a national viewpoint that it should receive far more attention than it does today.

Increase in Crop Pests

An important contributory factor in the recent situation of agriculture has been the various crop pests which during the past few decades have infested this country. The gradual spread of the boll-weevil over practically all of the Cotton Belt and the devastation which this pest has caused are so well known that they need not be discussed here. A large part of the Southern farmers have not yet been able to adapt themselves to the new conditions created by the weevil, especially to the higher production cost of cotton, and the economic distress among them is, therefore, in part a result of the advent of this pest. The problem of new crop pests is by no means confined to the South. For instance, for about a decade in some of the Middle Atlantic States the Japanese beetle has been causing serious injury while of late parts of the Mountain States have suffered greatly from the depredations of the alfalfa weevil. The corn borer has so far infested only a small part of our corn sections and cannot therefore be considered a cause of the general agricultural difficulties. But the experience in southern Ontario, where the corn borer in a few years nearly wiped out corn production and even caused a serious fall in land values, shows the significance of the pest, which is rapidly invading our best corn districts. The problem constitutes, therefore, a serious future menace which must be kept in mind in shaping agricultural policy.

Low Gross Return in Agriculture

Of the factors contributory to a long-time unfavorable status of agriculture one of the most important is the low gross return of the average farm enterprise. This is in part due to factors in the agricultural situation already discussed. Even though this return may not be decreasing as time goes on, it is in any case growing so slowly as to make it extremely

difficult to obtain a net income from farm operations such as will permit a standard of living for the farmer comparable to that which the bulk of our people have attained. The average gross income of the American farmer from farm production was estimated by the U. S. Department of Agriculture to have been about $1900 in the crop year 1926–1927. This figure includes the value of the food consumed on the farm. Even allowing for the fact that the figure was reduced by the low gross returns of negro farmers who form approximately 20 per cent of the whole, the amount is obviously very small. When all the expenses of carrying on the farm operations as well as interest on the investment or on mortgage debt are deducted from this gross income, it will be seen how nearly impossible it is for the typical farmer to secure a net labor income sufficient for modest comfort. It is clear that long-time prosperity is dependent upon the securing of a larger gross income per farmer, and this implies a reduction in the number of farmers with greater productivity per worker or higher prices for farm products.

Increasing Commercialization of Agriculture

The maladjustment between supply and demand, depletion of soil resources, and the low gross return in agriculture have been made more serious in their effects by reason of the increasing dependence of the farmer upon the exchange of his products and his diminishing self-sufficiency. Agriculture, like other industries, has been constantly moving toward production for a market rather than for direct consumption by the farmer. In 1820 about 86% of the gainfully occupied in this country were farmers. Most of our farms were operated in the beginning on a more or less self-sufficing basis. A large part of their operators' time was consumed in clearing and building up the properties and the remainder in the work of producing goods for direct consumption in the household. Farmers had but little connection with the outside world and no immediate economic maladjustments resulted from the establishment of these numerous farmsteads. But, gradually, during the past century these farms lost their self-sufficing character. Many goods formerly produced on the farm came

to be made in urban factories and the farmer had more and more time for purely agricultural activities. In addition to this, the practical completion of the clearing and development of the farms allowed the operators to concentrate still further on the production of crops for the market. The substitution of mechanical for animal power, as already noted, further diminished the self-sufficiency of the farm and made the farmer dependent upon the production and exchange of crops for cash.

This transition from the self-sufficing to the commercial farm system is of great importance in the agricultural difficulties. For it was this transition which fundamentally changed the supply and demand conditions in agriculture. As long as almost the total population consisted of farmers who led a self-sufficing existence on their farmsteads, the marketing of farm products, their prices and purchasing power in terms of other commodities were unimportant. The shift from a self-sufficing to an exchange economy, however, has tended to maintain the overexpansion of acreage, intensified the surplus problem, and increased both the instability of prices and the seriousness of the effects of their fluctuations. It has made more important the reduction of acreage, the conservation of soil resources by diversification and otherwise, the reduction in the number of farmers, the increase in the gross return per farmer, increased stability in price ratios, and better management and organization.

Increasing Instability of Return in Farming

The shift from a self-sufficing to an exchange economy, with its corollary of increasing specialization by individual farmers and by crop regions, has been accompanied by an augmentation of the year to year fluctuations in the prices of farm crops and consequently has increased the precariousness of farming. Under the self-sufficing economy, prices did not tend to fluctuate very greatly because adjustment of the supply to the market was comparatively easy. If, owing to a good growing season, the production of any commodity was heavy, each of the producers could expand considerably his own consumption, and prices in the market did not tend

to fall very far. On the other hand, in years of a short crop a slight rise in price would induce such a restriction of consumption on the farm as was necessary to bring out a supply sufficient to prevent a further rise in price. In either case the farmer was less affected by a given price change than he would be today, since he had little of any one crop for sale. Further, weather conditions peculiarly favorable or unfavorable to some crops and not to others, which today may be of vital importance to whole regions, were a factor of minor significance when diversification was more general. The opening up of semi-arid regions to crop production has also led to greater fluctuations in yield and in price. The consequence of all this is a very wide range of price fluctuations which make for large profits in some years and heavy losses in others.

The following Charts E to G show the extent of these fluctuations from 1870 onward for wheat, cotton, and corn. They indicate clearly how widely farm prices as well as return per acre fluctuate from year to year. It is beyond doubt that such insecurity of the income is of the greatest consequence to the farmer. It is almost an axiom that the average return is less in speculative activities than in those of a more stable sort. Men will enter and remain in a risky business on the chance of some day making a strike, even though, with such a strike realized, they make no very great return when the full cycle of lean years is taken into consideration. This principle apparently applies to farming, and especially to farming in the semi-arid regions where one good crop wipes out the memory of many poor ones, and the chance of another prevents abandonment of lands which offer no reasonable prospect of long-time prosperity. The presence of such farms in the field keeps down the return to all.

The increasingly precarious character of farming has effects which do not appear on the surface but which are none the less of great significance. The farmer is ordinarily a prudent and conservative man but as his prosperity depends more and more on forces outside his own control this prudence and conservatism are affected with a touch of fatalism and, in some cases, recklessness. Either feeling is deterrent to sound and progressive business.

Chart E: Prices in Cents per Bushel and Dollar Yields per Acre for Wheat, 1870–1926

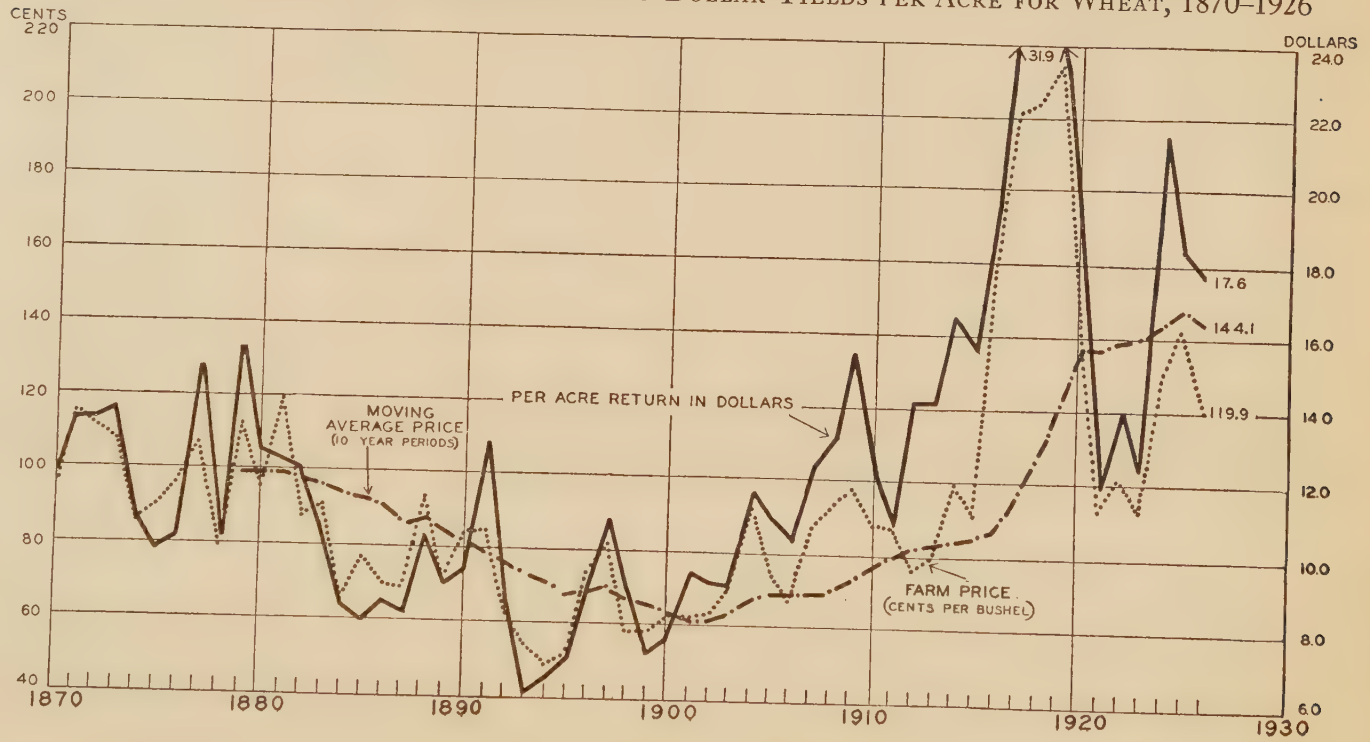


CHART F: PRICES IN CENTS PER POUND AND DOLLAR YIELDS PER ACRE FOR COTTON, 1870–1926

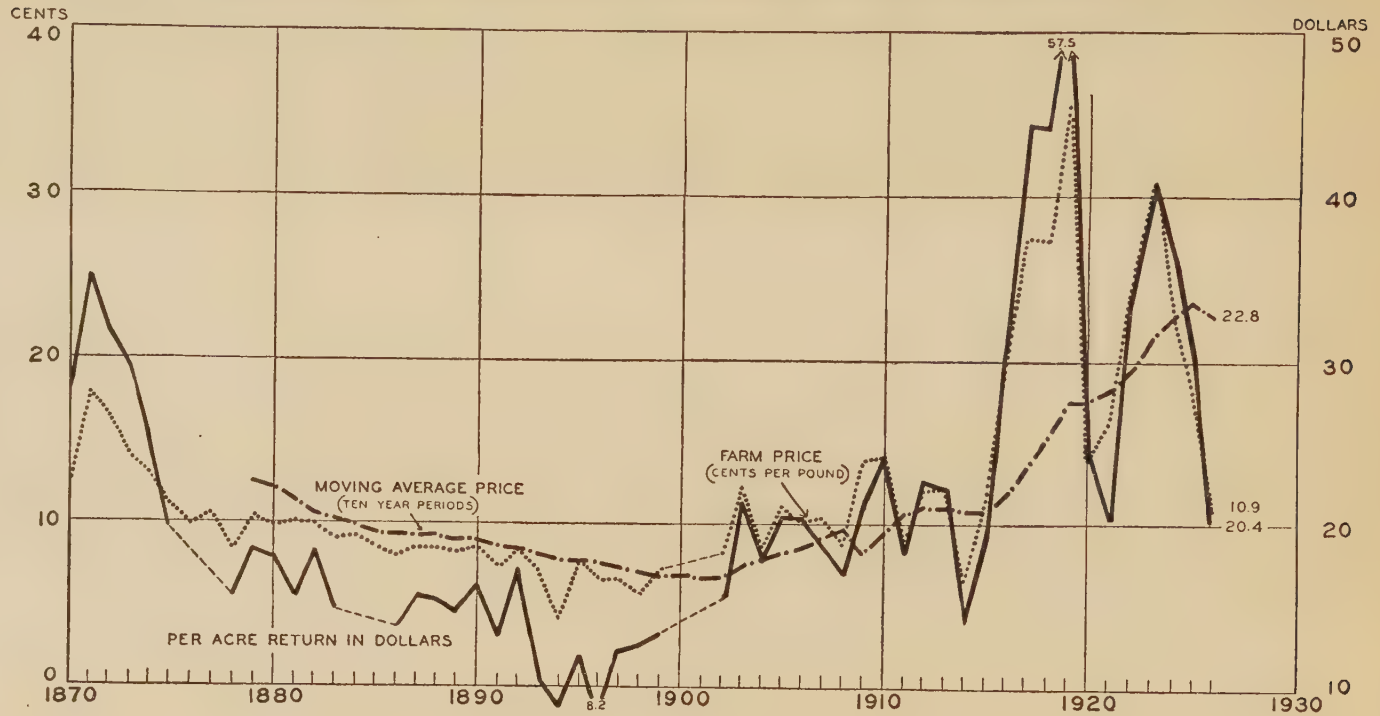
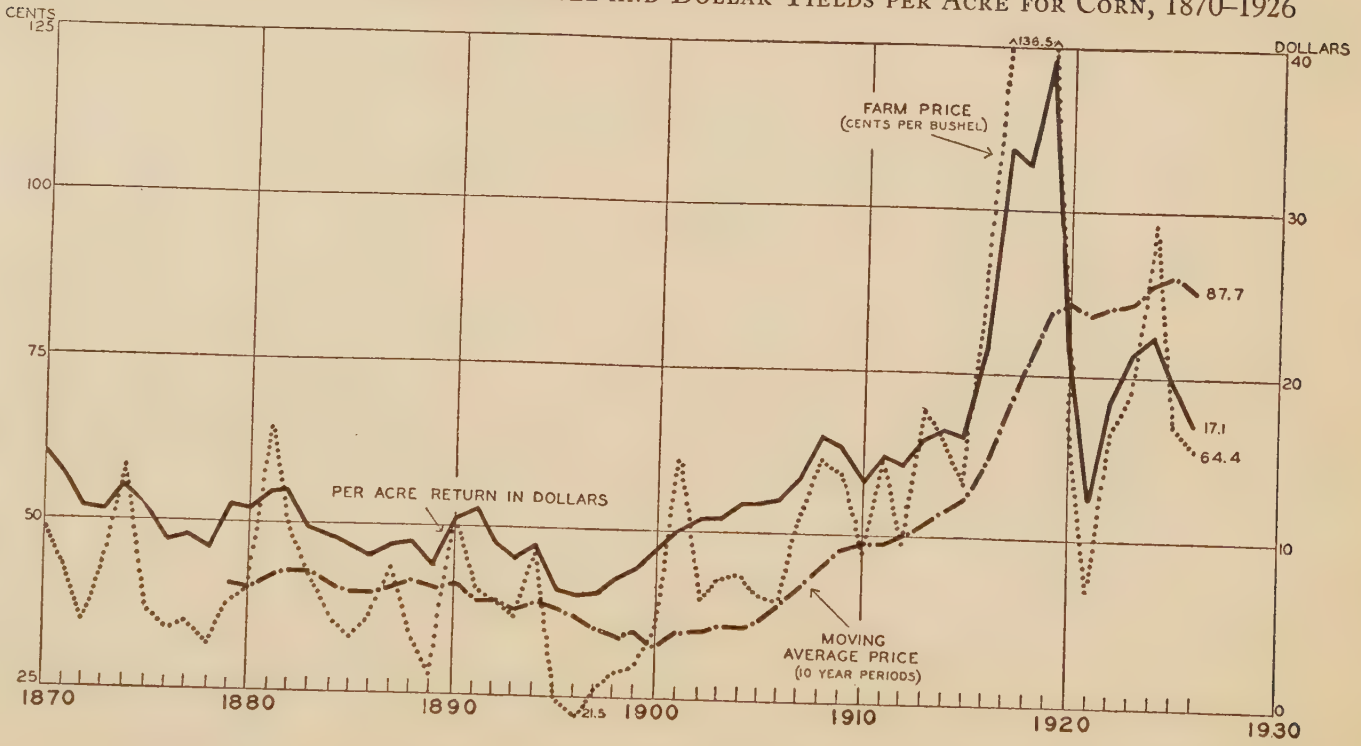


Chart G: Prices in Cents per Bushel and Dollar Yields per Acre for Corn, 1870–1926



The fluctuations of the general price level have also contributed to making farming more hazardous. The harmful effects of the deflation after the World War were discussed above. Deflation, however, may occur not only in a sudden explosion, as in 1920, but may proceed slowly over a period of many years, as in the thirty year period from the close of the Civil War to 1896. The latter type of deflation may lead to an anæmic condition in agriculture extending over the full period involved. Just the opposite conditions prevail, of course, when the general price level is rising. The burden of fixed charges declines and prices of farm products rise more rapidly than other prices. Gains and losses of this type, however, tend in the long run to be concentrated upon the land and it is largely as land-owners rather than as workers that farmers make or lose money. This is a wrong emphasis and increases the gambling quality of a business which is at best subject to great hazards. As a matter of fact, farmers usually lose through these fluctuations and so long as they continue eager to invest their earnings in land which is rising in value purely as a result of a changing price level, they are not likely to prosper proportionately with the rest of the community.

A minor and uncertain contributing factor to the instability of agricultural prices is undue regulation of the produce exchanges. Abuses exist on the exchanges but a rigid control may do more harm than good. The widest possible market is a good thing for the farmer since it tends to prevent a precipitous fall in prices when large supplies come in. A narrow market is usually characterized by excessive fluctuations in price, and is much more easily manipulated than a wide one. Though the interest of speculators is, of course, in no way correlated with that of the producer, it does not follow that the producer suffers by reason of the speculator's activities. Speculators are not interested in low prices as such, but in price fluctuations. The more speculators there are the less violent those fluctuations are likely to be. In so far as speculation stabilizes the market, as it seems to do, a real gain is secured by all productive interests, since there are few things more crippling to business than fluctuating prices and general insecurity.

The restrictions on trading which have been introduced of recent years cannot, indeed, be held to have resulted in any very considerable losses to producers, but to the degree that the market is restricted this situation makes buyers of grain somewhat more reluctant than they would otherwise be, and increases their risk, so that it seems not improbable that the cost of marketing may have been enhanced. From the standpoint of the producer there seems to be no doubt about the desirability of having a broad speculative market for agricultural products such as the exchanges provide, but there should be proper regulation if evils that may develop in this kind of business are to be eliminated. The chief difficulty seems to have been that the regulations laid down by the government representatives have gone to unnecessary extremes in certain respects. Thus it was for a time required that all small trades should be reported daily to the government bureau by the various houses handling such trades. This involved much work and caused many of the small traders, who are desirable from a market standpoint, to quit, with a consequent narrowing of the market. It would seem that cooperation between government officials and the officers of the exchanges could secure the necessary regulation without oppressive interference.

Lack of Organization and Management in Agriculture

The more important sources of difficulty in agriculture already discussed—the maladjustment between supply and demand, the low gross return, the effects of increasing dependence upon the market, and the instability of agricultural income—are in part due to the peculiar deficiencies of organization and management which are characteristic of the agricultural industry. The trend toward organization and collective action, which has been so marked a characteristic of non-agricultural industry in the last half century, has made relatively little headway in agriculture. It has already been pointed out that among all prices those of agricultural products are the line of least resistance in a period of deflation. This is due to the inability of the farmer to stop production on the one hand and the power of organized wage

earners to resist wage decreases on the other. The farmer producing the staple agricultural commodities deals as an individual both in buying and selling. On the other side are concentrated business units and though, in most cases, there is a degree of competition sufficient to prevent exploitation, such bargaining advantages as there are, are all in favor of the organized group.

In addition to this the small scale of his operations makes it impossible for the farmer to do many things to which a business of larger scope can easily attain. Even the most simple cost accounting is difficult for the man who does his own manual work. He, therefore, generally does not know his own costs, and competition among producers who do not know their own costs is proverbially ruinous. Further, the farmer cannot afford to do much experimenting, and the variety of soils is so great, even within a small area, that what is good on one farm may not work at all on another.

There is as yet no practical equivalent in farming for the trade association. The result is that the buyers of farm products usually know more about market conditions than does the farmer, and there is slight, if any, possibility of adjustment of supply to demand except by the slow process of price changes. The huge number of small producing units scattered all over the country make cooperation difficult, and producers in different sections have diverse and often contrasting interests at any given moment.

Finally, the farmer is attempting to perform a variety of functions such as now obtains in almost no other trade. The same individual is both producer and seller, and often both worker and investor. In almost all other businesses those functions have been differentiated. Efficient production in farming requires a high degree of intelligence and information and it is too much to ask that the producer shall also be an expert salesman and judge of market conditions, or an astute financier. The inability to perform well all these functions at the same time has been responsible for many of the difficulties of the agriculturalist. The American farmer has, on the whole, done well as a producer but not nearly so well in the marketing of his product, nor in his investments. Those branches of agriculture which have developed

an efficient system of marketing, handled by men who give to this aspect of the work their full attention, have been relatively prosperous. But the typical farmer has remained a jack of many trades to his own great disadvantage.

Slow Adjustment of Agriculture to Economic Requirements

An important general source of the difficulties of agriculture is the peculiar slowness of the farming industry in making its economic adjustments. Agriculture is less flexible and rapid than manufacture, commerce, or finance in meeting and adapting itself to new economic conditions. Whether it is in adaptation to a new price level, to fluctuations in prices or to changes in market demands, or in the introduction of new production processes or of new forms of organization, agriculture always requires a relatively long time in the process.

One reason for this peculiarity lies in the biological character of agricultural processes, in which the element of time is of great, almost irreducible, importance. Manufactured articles, as a rule, can be produced in a continuous working process which often requires only hours or days and seldom more than a few weeks, and by improvements in methods the time required can be cut down, in all but few industries, to a very great extent. But agricultural products can be raised only in a more or less fixed and relatively long period of time. Wheat is sown in the fall and ready for harvest not before next June, and so with other crops, while beef cattle and dairy cows require years before they are saleable or yield an income. The result is the slow turnover of the capital invested in agriculture (once in about seven years) already mentioned. This alone makes for slow adjustment to change in comparison with the possibilities in industry and trade, with their flexible labor forces, fluid capital resources, and quick turnover.

Of equal importance is the fact that agriculture has a peculiar power of resisting changes in its methods and forms of organization, although these changes may be prescribed by the general economic development. This resistance to

change in agriculture is due to the relatively self-sufficient character of each producing unit in the industry, a peculiarity that has continued in spite of the commercialization of farming. The farmer is practically always sure of raising at least as much as he needs for maintaining himself and his family, and this fact makes him to a very large extent independent of the existing economic conditions and enables him to defy the trend of economic development for a long period. In this respect there is a fundamental difference between agriculture and manufacture. If a manufacturing industry finds itself suffering from overexpansion and low prices or is faced with the necessity of adapting its methods to new market or labor conditions, in most cases a fairly rapid automatic adjustment is possible. In the event of overexpansion the manufacturer always has the possibility of immediately discharging his labor and shutting down his plant, and very often this course is accompanied by permanent elimination from the industry of the weaker ones among the competing enterprisers. They are forced out of business mainly through the fact that the cost of their raw materials and labor is fixed by forces beyond their control. If the selling price does not cover these costs, a failure to withdraw voluntarily is followed by bankruptcy and a forced cessation of activities in this line. The discharged laborers can no longer find employment in the overexpanded industry in which they have been working and are compelled to enter lines to which demand has shifted and which are, therefore, relatively underdeveloped. If they fail to find such employment, they have at least ceased to drive prices down still further on those goods which they were originally producing. Financially strong manufacturing firms will sometimes continue to produce for a certain period even at a loss, in the hope that the market will improve and in order that their organization may be kept intact for such improvement when it takes place, but this cannot be continued for long.

But in agriculture which, alone of all the great industries, is still typically conducted on the basis of a one-man or one-family producing unit, the process of adjustment is much less smooth. Except to a minor degree the farmer has no labor which he can discharge. This means that his cash outlay

for labor is very small, and the same is true of his cash payments for raw materials. Thus it is possible for the farmer to continue production for a relatively long time under unsatisfactory price conditions. He even tends to increase his production in such a situation in order to make up for the low price by a greater volume of output. The farmer can nearly always guard against actual want as he grows a large part of his own food, but he can not quit production without giving up his home as well as his place of residence, both of which changes are seldom necessary if a manufacturing worker takes up another occupation. In addition, the farmer is somewhat inept at other activities while the city laborer can often in these days shift from one occupation to another with comparatively slight change of function. If the farmer quits agriculture in a period of depression in that industry, he further tends to lose heavily on his investment, since the depression which is the cause of his difficulties will, among other effects, have brought on a severe decline in land values. The upshot of all these factors is that he tends to stay on the farm and continue in production when the only thing which can effectively restore prosperity is his own withdrawal or that of a sufficient number of his fellows.

The same difference exists in the case of adjustment to new inventions. Manufacturers who do not adopt new machines or processes find themselves rapidly falling behind in the competitive struggle and tend to be eliminated in a short time. This tendency is so strong that over the whole industry a fairly even degree of efficiency develops. Where differences arise they are quickly ironed out by the sharp competitive struggle. In agriculture, on the other hand, the inefficient producers can survive almost indefinitely. Their antiquated processes or machinery may make it impossible for them to earn a satisfactory income, but it takes a long time for their defective methods to drive them from the farm.

Though in some respects these differences of adaptability are inherent in the nature of the industry, in many ways agriculture is suffering from a severe form of arrested economic development. While manufacture and commerce have rapidly advanced and have completely changed their pro-

ductive, financial and marketing aspects in the last 150 years, agriculture is still essentially the same as it was before the industrial revolution, or at least lags far behind the other industries in the economic development. Many of the differences between urban and rural prosperity which receive so much attention today are to a large extent reflections of these differences in economic development.

It must be remembered, however, that the slow adjustment of agriculture to economic requirements arises in part from the fact that improvements in his production processes often make the situation of the farmer worse than it was before. As inefficient and superfluous producers are eliminated but slowly from agriculture, improvements in production often have for a long time the result merely of increasing the output beyond market demands and of thereby driving prices lower than they were before. The industrialist who improves his methods knows that the resulting increase in output, with its concomitant of low prices, will only be a temporary phenomenon and will soon be followed by elimination of those of his competitors who could not adopt the new methods. In fact, this prospect of squeezing out competitors is a strong incentive for the industrialist to improve his methods. But the farmer has always to reckon with the fact that widely adopted improvements will make the situation worse. The success of measures for reducing costs in agriculture by more efficient production depends in this way to a large extent on how generally improved methods are adopted. The greater the number of producers who do so the less is the probability that any benefit will accrue to them therefrom, at any rate until demand has caught up with the increase in production or some producers have been eliminated. So far from receiving any benefit from widely adopted improvements in production, there is a chance not only that the whole benefit of the improvement will inure to the buyer of farm commodities, but that the farmer will even lose part of the returns which he obtained before the improvement was made. While, therefore, improvements in efficiency are incumbent upon the individual if he is to weather the storm, and while those who *initiate* improvements and keep ahead of the procession may enjoy a fair

degree of prosperity, widely adopted improvements may mean for a considerable period less rather than greater prosperity. This is possibly one of the reasons why agriculture has been slow to introduce them in any large or organized way.

Rapidly Changing Comparative Advantage of Agriculture and Manufacturing

Perhaps the most general and far-reaching factor in the agricultural situation is one which has been in some degree implicit in much of the foregoing discussion—the rapid increase in recent years in the relative economic superiority or advantage of the manufacturing industries in this country as compared with agriculture. This is clearly revealed in the diminishing rôle of farm products in our export trade. For many decades prior to the World War, agricultural products have formed a declining percentage of our total exports, while exports of finished manufactures have been steadily rising. The reverse movement has taken place in imports. In 1860, the combined exports of crude materials of agricultural origin and of crude foodstuffs constituted 72 per cent of the total exports of the country, while at present the percentage is about 33. In the same period imports of agricultural origin rose from about 24 to approximately 50 per cent of the import total. The percentage of finished manufactures, on the other hand, fell between 1860 and 1926 in the import list from 48.7 to 19.8 and rose in the export list from 11.3 to 41.5[1]

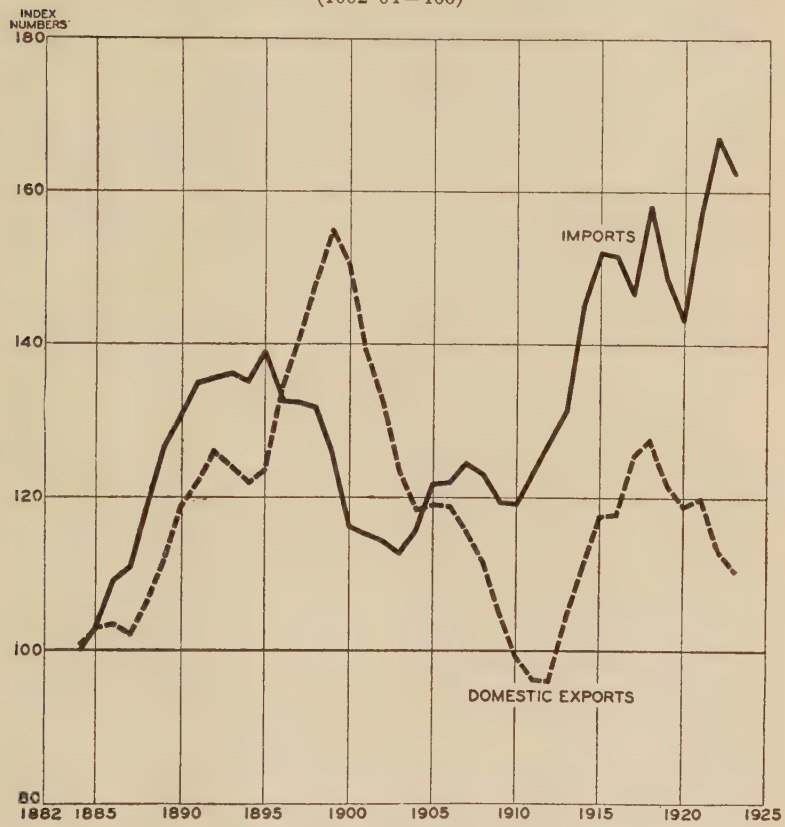
The following Chart H shows graphically the changes in the volume of agricultural exports and imports during recent decades when figured on a per capita basis.

This tendency, is, of course, a natural accompaniment of our transition from an agricultural to a manufacturing country and of the increase in our population and in its standard of living. It is chiefly the huge demand of our population for rubber, sugar, coffee, tea, tropical fruits, etc., which has made the percentage of imports of agricultural origin in our total imports mount so rapidly. But it is

[1] From Statistical Abstracts of the United States.

CHART H: CHANGES IN PER CAPITA VOLUME OF EXPORTS AND IMPORTS OF AGRICULTURAL PRODUCTS, BY FIVE-YEAR MOVING AVERAGES, 1882–1925

(1882–84 = 100)



This chart shows the changes in the quantity of exports and imports of agricultural commodities in relation to our population from the period 1882–84 to 1920–25. It is based upon the dollar values of agricultural exports and imports deflated by an index of wholesale prices of agricultural products. Values of exports and imports are for fiscal years, from U. S. Bureau of the Census, "Statistical Abstract of the United States," 1921, p. 840, and 1924, p. 584. Wholesale prices are for calendar years, from the U. S. Bureau of Labor Statistics, Bulletins 149, p. 179, and 390, p. 8. Population estimates are for mid-years, from "Statistical Abstract," *op. cit.* The imports include all products of agricultural origin. In 1925, over 50% of the value of such imports consisted of products obviously directly competitive with the products of American farms.

obvious that such a decline in the relative position of agricultural commodities in the export list as has taken place has meant a relative shrinkage of agricultural production over the entire period in which the diminishing percentage of exports has been in evidence. This relative shrinkage could be the result only of such a shifting of prices and costs which has made it more and more difficult to obtain as good a return in farming relative to other occupations as had been possible in the day when agriculture was rapidly expanding. The relatively improving position of the urban worker—the rise in wages in non-agricultural industry relative to the return received by the farmer for his labor—has been made possible both because American manufacturing industry has been growing in efficiency faster than has that of Europe, and because American agriculture has been losing ground relative to the newer agricultural countries.[1]

In other words, fundamental causes have been in operation which were giving this country a relatively better competitive position in manufacture, and at the same time making it more difficult for our farmers to compete with the outside world. It has become constantly easier for our manufacturers to sell at world prices though paying the higher American scale of wages, but harder for the farmer to do so. The farmer has found it increasingly difficult to meet the competition of manufacturing industry for labor, or, what is practically the same thing, to earn a labor return comparable to that received by the worker in manufacturing industry. These forces were held in abeyance, or even reversed, during the war, but they have been operating with accentuated strength since its close.

The war crippled the producing power of our principal industrial competitors, Great Britain, Germany, France, and Belgium, while our own manufacturing facilities were being greatly improved. The deterioration in productive equipment which took place in Western Europe, followed by the disturbance of the whole economic situation consequent

[1] These statements, it should be noted, make no assertions concerning the absolute efficiencies of workers in the different countries. The American farmer produces more per man than do the farmers of other countries and he produces more than his forebears in this country did, but he has none the less been slipping back in competitive strength relative to that of American manufacturing industry.

upon rapidly declining currencies and the dislocation of markets for which the war was responsible, put those countries under a handicap from which they only slowly recovered. Productivity per worker in manufacturing industry in this country in recent years has, on the other hand, shown a remarkable rise. In agriculture, on the contrary, our chief competitors did not suffer in productive power during the war or afterward. The lack of shipping checked expansion during the war period in such of them as were far removed from the consuming markets of Europe, but the relative cheapness of ocean freights of late years has given them a stronger competitive position than they had before. Their inability to market their commodities during the war, coupled with the decline in European production, led to unduly high prices at that time and to an expansion of our own agricultural areas into regions where real costs are high. This expansion could not be sustained when competition revived and prices fell. Agriculture in Europe recovered from the war rather more quickly than did manufacturing and the scarcity of capital probably tended to increase the percentage of the population devoting themselves to agricultural pursuits, so that it was only the economic collapse of Russia and the practical elimination of that country from the export markets which shielded our farmers from worse conditions than they actually experienced.

The result of our rapidly improving competitive position in manufacturing industry and of our failure to preserve a proportionate superiority in agriculture is to emphasize, since the war, the tendency to supplant exports of agricultural products with those of manufactured goods. In spite of the fact that wages in industry have fallen but slightly, if at all, from the peak attained in the period of maximum inflation, our manufacturers have been able to undersell foreign competitors to an increasing degree, and yet obtain good profits. The American farmer, on the other hand, is sorely beset by competition from other countries in the great consuming markets for agricultural products, and the prices he has been able to obtain do not yield him a satisfactory return. The shift in comparative superiority from farming to industrial pursuits has led to a stronger bidding

for labor by manufacturing industry. This has kept the wages of industrial workers at a point which it is impossible for the farmer to reach and has induced a large movement from the farms to the factories. This movement will eventually go far to equalize opportunities in the various branches of production, but it has not yet been very effective in doing so, because of the slow adjustment of agriculture to economic changes like these. What the significance of these changes as well as of the other factors just outlined may be for the future of American agriculture and for the development of national policies toward it deserves further consideration. The effort in this chapter has been merely to present objectively the more important factors which, in the view of the Commission, have contributed to the situation in which American agriculture now finds itself, without endeavoring to interpret their relation to the question of our future policy toward agriculture. This is the subject of the following chapter.

CHAPTER III

THE NATURE OF THE AGRICULTURAL PROBLEM AND THE AIM IN AGRICULTURAL POLICY

ALL that has been said in the preceding chapters regarding the situation of agriculture and the factors affecting it may be regarded in a sense as a reflection merely of a necessary adjustment to changing conditions in the economic life of the nation. Agriculture, under the conditions which now prevail, is overexpanded relative to other occupations. In order to bring about a redistribution of productive powers in keeping with the demands of the present, it may have been inevitable that farmers should have suffered depression at a time when other groups have been prosperous. But it is clear that the process has been extremely drastic and it is possible that the impetus of the forces which have been effecting the adjustment may carry too far and confront the nation with the opposite and equally undesirable phenomenon of unemployment in the cities and high costs of living. The supply of agricultural products responds but tardily to changes in demand. This is true whether these changes are up or down, but the supply tends to contract more slowly than to expand. In order to overcome this inertia the relative fall in the price of farm products must ordinarily be so great as to induce an exodus from agriculture to industry. Once under way, such a movement is hard to stop, and it may, and in fact usually does, reverse the maladjustment of these two great branches of the economic life.

If the depression through which agriculture has been passing is transient and its magnitude proportionate only to the dislocation attendant upon the World War, the condition of the industry since 1920 may be regarded as a passing phase, similar to, if more severe than, many other depressions to which the farmer in the past has been subjected. It has been

closely connected with the rapid decline in the general price level following the war and the post-war boom, and is possesses features markedly like those which have usually occurred after great wars and at certain other periods of deflation.

If this be a true interpretation, and if it sums up all that need be said of the situation, reliance could safely be placed solely upon time and the natural play of economic forces to effect the needed readjustments. There seem, however, to be other factors in the situation, which may be immensely more important in the long run, and which give rise to the disquieting suspicion that an interpretation in terms of a temporary slump does not tell the whole story. Agriculture in this country appears to be subject to certain deep-lying ills which time alone can not safely be relied upon to cure, but may even accentuate. As has been indicated, there is evidence, for instance, that real as well as money costs in the industry are rising; that we are not keeping our old superiority over competitors; that the fertility of the land is being impaired; that erosion is insidiously and constantly carrying away a layer of irreplaceable surface soil not only from the hillsides but over practically the whole area devoted to plowed crops; that many if not most farmers are year after year failing to secure a return equivalent to that which can be obtained in the city by workers of no greater ability; that the comparative advantage of other industries is rapidly increasing; that the obstacles to the extension of markets for farm products are growing more effective; that the difficulties of improving the organization and methods of agriculture are increasing; that the year by year fluctuations in the prices of farm commodities are growing ever more severe and are increasing the hazard under which the farmer carries on his occupation; that tenancy is increasing; and that the quality of the farm population is undergoing a progressive deterioration.

If conditions such as these actually exist in any important degree in our agriculture as a whole, it is obvious that we are confronted with a problem very different in character than is the case if the agricultural situation is a reflection merely of a temporary depression due to the war. In the face of such

conditions there arises an imperative demand for the formulation of a continuous, far-sighted national policy toward agriculture which shall be expressed not only in terms of co-operation among all important economic groups in the nation, but also in terms of carefully planned governmental measures.

In such a national policy, however, it is necessary to take account of those self-operating economic forces which are already in evidence in the course of agricultural development and which are bound to run their course with or against such conscious measures of control, direction or adjustment as may be adopted. Our agricultural life, like all our economic life, is in a continuous process of change, and any policies that are adopted to affect its course of development must be brought into relation to such changes. Furthermore, it must be recognized in formulating any national policy toward agriculture, that agriculture is in certain fundamental respects a peculiar industry radically distinguished from other industries in the nature of its processes and in its manner and capacity of adjustment to changing conditions. Finally, no national policy toward agriculture can be complete, adequate or even safe which does not consider the fact that agriculture is not merely an industry or a business, but also a way of living for an enormous part of our population, and that it therefore involves questions of profound social significance.

In order to secure a sound basis for national policy, therefore, it is necessary to consider, first, the broad and fundamental question of where American agriculture really stands today. Amid the complex, shifting and temporary features of the agricultural situation in recent years is it possible to discern any definite trend of progress or retrogression, and in what direction is this trend likely to take our agriculture in the future, apart from other influences which may be brought to bear upon it? Secondly, what are the peculiar limitations or the characteristics of adjustment of agriculture which determine how and to what degree it can be expected to respond to measures or policies consciously applied to it? Third, what are the essential social problems involved in such adjustment?

The Trend of Agricultural Development

The Commission does not believe that our present knowledge is sufficient to give a conclusive or safe answer to the first of these questions. In studies of agricultural questions attention has been confined so greatly to the recent situation, and so little consideration has been given to the long-time trend in American agriculture, that further investigation is required to determine with any degree of certainty in what direction American agriculture has been moving in the course of its development, or is likely to move in the future. The Commission wishes to emphasize most strongly the need of such investigation and the desirability of general cooperation in the support of such study in the national interest. History has amply demonstrated the danger of assuming the answer to such fundamental questions and of ignoring their importance. It is clear that the discussion of agricultural questions in the past has been based too largely upon the assumption that agriculture will remain in the future what it has been in the past or what it is now. All that can be done at present, however, is to indicate, on the basis of such testimony and observation as the Commission had the benefit of, certain tendencies in agricultural development of which it is necessary to take account in formulating national policies.

There are those who assert that the standard of living of farmers today is not as high as was that of farmers in similarly developed districts generations ago, and many more are convinced that, whatever the absolute situation of the farmer may be today, he has for a long time been losing the position relative to that of the urban worker which he once held. With existing knowledge in this field it is not possible to prove or disprove either of these opinions conclusively, but in judging the general trend in the position of agriculture, certain features stand out clearly.

In the course of a long period the money income of the farmer has naturally shown a large increase, but a considerable part of this increase must be attributed to the gradual commercialization of agriculture which has already been mentioned. For this reason the continuous rise in the pur-

chasing power of farm products during the past century, which has already been pointed out in a preceding chapter, affords no positive evidence regarding the long-time trend in relative economic position of the farmer. A major part of the farmer's income in the earlier days was produced in kind on the farm. This was true not only of the foodstuffs but of many commodities now produced by city workers. Today a much smaller part of the farmer's return is in this form, so that a rising money income relative to that obtained in other occupations would not prove that agriculture was indeed showing a relative increase in prosperity, since almost the entire income among other groups has been in monetary terms for a long period.

Furthermore, it is evident that the trend of farm income over long periods of time has been profoundly influenced by changes in the general price level. Our history bears abundant witness to the special hardships suffered by agriculture in periods of declining prices. When agricultural prices are rising along with the general price level, land values tend to rise in even greater degree. A subsequent fall in general prices, coupled with the overexpansion to which agriculture is constantly exposed, leads to disproportionately low prices for farm products and to sharp deflation of land values. In this recurring cycle of change the farmer usually secures a much smaller portion of the gains when the trend of prices is upward and tends to absorb a larger share of the losses from falling prices than other groups.

In general, it is probable that the return on investments in agricultural land over a long period of years has been lower than on most other reasonably conservative types of investment; and whether or not the farmer's labor return has been rising or falling relative to that received in other industries, it has been low for the three-quarters of a century for which any statistics are available. Though the statistics on this point are far from adequate, their defects do not justify any serious doubt of the persistent inferiority of agricultural incomes. The farmer can never, of course, hope to obtain great wealth and must secure his compensation in lower cost of living, security of employment, an assured minimum of livelihood and an attractive and relatively free

way of life. Whether or not the American farmer of today is obtaining these compensations in full measure, he is undoubtedly less prosperous in pecuniary terms than his urban fellow. Though this may not have been true at certain periods in the past and may at times cease to be true in the future, there is some reason to believe that forces are operating which have kept, and unless counteracted will continue to keep, the economic rewards in agriculture below the level of those in urban activities.

The nature of the more important of these forces has already been indicated in the preceding chapter, but some of them deserve further consideration in determining the direction of our national policies toward agriculture in the future. The rapid development of our enormous land resources on the basis of the self-sufficient farm unit together with the increasing commercialization of agriculture, its increasing dependence upon markets for its products and its increasing yields per acre and per man, led during the whole of the last century to a tremendous expansion of agricultural production. The great expansion of urban centers and a large scale export movement of farm products to Europe tended to sustain the market demand for a long period. But with the exception of a few intervals, such as the period of the great war, production has constantly run ahead of demand, so that the position of agriculture has tended steadily toward relative depression. While there have been cycles of relatively greater prosperity or depression, it is doubtful whether even in the most favorable year the farmer has received more than his fair share of the country's prosperity, and in the worst years he certainly has fallen very far short of it. Farmers have persisted in accepting this situation because they have in many cases counted on a rise in land values which in part has been realized; but on the whole, the movement of land values in the long run has tended to diminish rather than increase agricultural prosperity.

Tendencies toward readjustment of these disparities between farming and urban occupations set in, of course, at an early period through the movement of population from the less profitable rural to the more profitable urban pursuits. This movement has been going on for many decades and is

reflected in the rapidly declining ratio of farm workers to the total gainfully occupied, which in 1820 was about 86% and by 1920 had fallen to 26%. Between 1910 and 1920 the whole net natural increase of the farm population was transferred to the cities and in addition there was a movement from the farms sufficient to reduce the number of persons gainfully occupied in agriculture in 1920 to about 90% of the figure for 1910. Since 1920 this movement has been greatly accelerated so that for the first time in our history there has taken place an actual decline in farm acreage as well as in farm population.

That the transfer of so considerable a number of agricultural workers to the cities as has taken place in the last fifteen and especially in the last seven years has still failed to improve the prices of agricultural commodities relative to those of other goods, is a reflection principally of the rapidly increasing comparative advantage of our manufacturing industries in production, which has made American agriculture a factor of diminishing importance in the export market. The loss of our comparative advantage in the production of most farm products, together with our changed position in international transactions and our tariff policy, have wiped out a very large part of the former foreign demand, at least at prices which would yield the farmer a return equal to that of the urban worker. Consequently a very considerable reduction in the number of American farm workers has not been sufficient to restore the balance.

If, by the adoption of proper agricultural policies, our farmers can so reduce their costs, by improved methods and in other ways, or so expand their markets as to provide a net income at the prevailing prices of farm products comparable to that of city workers, we could retain the present volume of agricultural production and continue to hold our foreign markets. If, on the other hand, the American farmer can not make the required improvements in production, or if his costs can not be sufficiently reduced by other means or his markets adequately and naturally expanded, we must look forward to a continuing contraction of the agricultural industry in which process the less productive or more remote farm lands will be devoted to other uses. If this occurs it will tend to put more

and more farm commodities on a domestic or even on an import basis, just as many which were formerly exported have already reached that position. The latter result might solve some of the agricultural difficulties, since tariff protection could then be made effective and domestic prices increased, but it is questionable whether this would be the desirable outcome. We are still a long way from reaching an import basis in our great staple crops, and there is no inherent reason why the American farmer should not be able to earn an American income even though he must sell at world prices. Other industries have achieved the ability to do this, and there is no reason to believe that the American farmer can not do the same.

The farmer's ability to compete can be improved by the removal of disabling legislation and in other ways, but this will not eliminate the necessity for a determined effort to reduce agricultural costs. The relation between prices and all other costs determines whether or not the farmers' net income will be equivalent to that of equally capable workers in other lines. If, through increasing productivity, real wages in other lines increase relative to those of comparable labor in other countries, agriculture must increase its productivity also if it is to preserve its present relative position in the national economy. The yield per worker in American agriculture must surpass that of foreign competitors by at least as much as the general productivity of other workers in the United States surpasses that of other countries if agriculture is to remain a self-sustaining export industry. If, taking agriculture as a whole, it fails to do so, the contraction of agriculture is bound to continue.

In this problem other elements of agricultural costs, though immediately important, are likely to be of less significance in the future. There is no conclusive evidence that the prices of materials used in the production of agricultural commodities have risen for American agricultural producers relatively to what their foreign competitors must pay. On the contrary, our increased exports of agricultural machinery indicate that the opposite is the case. The competitive position of the American farmer in this respect does not seem to have been seriously impaired. Capital charges in agriculture depend

largely upon the price of agricultural land, the interest rate and taxes. Land values have shrunk greatly in the United States the past few years, so that the competitive position of the American farmer in this regard has been much improved, except for those farmers who have a heavy burden of mortgage debt. This advantage will continue provided that improvements in the position of agriculture are not immediately capitalized in excessive land values, as they have so often been in the past. The general interest rate in the United States seems at present to have a falling tendency which may continue for a long period, and it is certainly lower than almost anywhere else in the world. If this generally low interest rate can be made applicable to agriculture, it should greatly improve the competitive position of the American farmer. Taxes are much higher than they were in the pre-war period, but this phenomenon is not peculiar to the United States. The chief question in considering the competitive position of agriculture is as to whether taxes are heavier on agriculture in proportion to income than on other industries in this country. Statistics on taxation later to be presented go to show that this is the case. A certain degree of redistribution of the tax burden, therefore, is called for, and when achieved, will increase the ability of American agriculture to compete with foreign producers.

Though in all these respects the outlook is promising, fundamentally agricultural costs are relatively high in this country because many farmers are far from securing the optimum yield per acre. The failure of the national yield per acre to show any marked improvement in recent decades is in part no doubt due to the fact that there have been no more rich virgin lands to bring under the plow. This is a real competitive disadvantage which can be overcome, if at all, only by keeping a lap or two ahead of foreign competitors in the use of improved methods; in other words, by increasing yields per worker. The virgin agricultural areas of the world are by no means unlimited and the pressure from this source on producers in older areas cannot go on indefinitely. The place of agriculture in the national life of any country depends most largely on the relation of cultivable land to the total population. The larger the per capita acreage of

good agricultural land the greater the probability that agriculture will be an export industry. Our own position in this respect is good and the situation therefore favors agriculture in this country in the long run.

In respect of its competitive position, as well as in other aspects, it is certain that agriculture is on the threshold of fundamental changes the beginnings of which are clearly apparent. They can be summed up in the words "industrialization of the farming industry," and the application of business methods to agriculture. During the last 150 years manufacture and commerce have been completely revolutionized. The principal driving forces in this process were steam power, electricity and the gasoline motor, together with a host of scientific discoveries in practically all lines. Agriculture, however, has so far been almost passed by in this transformation. On most farms it is carried on today in essentially the same manner as it was before the industrial revolution, namely, by individual farmers supplementing their strength with animal power. It is true that during the last century great strides have been made in replacing the crude farm instruments of former times by modern agricultural machinery. But this has not changed the essential features of the industry. The new machines are owned and operated by the same individual farmers and are drawn or operated by the same farm animals as the cruder instruments of former times. Except in the threshing of small grains, steam power did not find any place in agriculture at all.

For about two decades, however, fundamental changes have been taking place. The gasoline motor has gained the entrance into agriculture which was denied to its older brother steam, and at the same time important inventions in the utilization of electricity and in the improvement of farm machinery are being made. It is probable that these movements will do for agriculture what steam, electricity and gasoline motor together did for manufacture and commerce. They offer prospects for fundamentally changing agriculture along lines similar to those that have been in evidence in manufacture and commerce.

That this change has not yet taken place is not astonishing, as the whole tendency is of recent origin. The gasoline motor

appeared in farming only about two decades ago and then only on a few scattered farms. Even in 1925, only 506,745 of our 6,372,000 farms were equipped with tractors, and in most cases these machines had been in use only a few years. Furthermore, as has been indicated, one of the most outstanding characteristics of agriculture is the slowness of its evolution. It is obvious that so slowly moving an industry cannot show the results of new inventions in a few years. Nevertheless, the significance of the impending changes is already distinctly noticeable.

The tractor is usually more efficient than the horse. Tests made by the U. S. Department of Agriculture showed that whereas thirty-seven days were required to plow a 100-acre tract by horse, the substitution of a three-plow tractor required only twelve. Some of the tractor cultivators on the market make it possible to cultivate four rows of corn at a time and to travel with twice the speed of a team, which should make it practicable for one man to cultivate 250 acres of corn.[1] In cotton raising, tractor and multi-row planting and cultivating equipment have enabled one man to "plant and care for 100 acres of cotton up to the harvesting operation, while a man with a mule and single-row tools can tend only about 10 acres."[2]

This mechanization process is most advanced in the production of small grains, especially in wheat. The combined tractor-driven harvester and thresher makes it possible to gather a bushel of wheat in a few minutes and with a minimum of expense. Already almost half of the wheat crop of Kansas is so gathered. This year 2,000 more farms of Kansas were equipped with such combines, many of which are also doing custom work on neighboring farms, so that it can only be a question of a few years until practically all hard winter wheat of the country will be harvested in this way. At the same time the combines are slowly but apparently successfully working their way into the humid sections of the country.[3]

[1] W. J. Spillman: "Balancing the Farm Output," Orange Judd Publishing Co., New York, 1927, p. 39.

[2] *Manufacturers' Record*, September 22, 1927, p. 73.

[3] See E. A. Silver: "The Combine Invades the East," in *Farm Journal*, February, 1927, p. 39.

Mechanical harvesting is by no means confined to small grains. In the western end of the Cotton Belt, cotton is no longer picked by hand but stripped off the plants by mechanical devices, so-called "sleds," which enable one man to attend to an acreage several times as great as under the former methods. These "sleds" are not practicable in the more humid eastern sections of the Cotton Belt where the plants do not ripen at the same time and can not, therefore, be stripped of the bolls. But tractor-driven cotton-picking machines for this section are being manufactured. Although their utilization is still in the experimental stage, it seems that the old problem of a mechanical cotton picker is nearing a solution. This, together with tractor plowing and cultivating, may fundamentally change the farming system in the South.

A development of still greater potential influence than any of these is that of mechanical drying of hay and other green crops. There are now on the market mechanical driers which, along with tractor driven mowing machines, make it possible to perform mechanically the entire hay harvesting operation. Less than an hour elapses from the cutting of the green grass or clover to its deposit in the storehouse as dried hay or meal. The work can be carried on in rain just as well as in good weather.

These machines are likely to revolutionize the growing of animal feeds. A crop like alfalfa, for instance, which is grown easily and produces large yields of great nutritive value, thrives best in humid regions, but the difficulties of natural curing under humid conditions have tended to limit its production to the drier areas. This will no longer be the case. Artificial drying, moreover, makes it possible to feed the small grain crops in dried green form. It is well known that the feeding value of a matured grain plant is less than half what it was in the green stage of the plant's life, since in the ripening process the plant itself consumes a great part of its nutritive elements. Through artificial drying it is now possible to preserve the feeding value of the green plant and, since the plants are cut young, several crops can be taken from the same piece of land in a single year.[1]

[1] Though the practicability of artificial drying has been demonstrated, experience is as yet limited and results cannot be predicted with precision.

In view of these and other advantages of artificial drying it has been suggested[1] that a large part of our corn land should be planted with alfalfa, sweet clover, or a small grain crop, to be cut green and dried. According to this view, the clean-cultivated corn crop is ill fitted for a country with a rainfall such as prevails in most parts of the United States, where precipitation is relatively infrequent but, when it comes, very heavy. These rains are gradually washing away more and more of the humus layers in our Corn and Cotton Belts. For centuries the land withstood the rain as it was protected by forests or by a dense growth of prairie grasses. But since the advent of the cultivated crops the humus layer is rapidly disappearing even from level surfaces. It is asserted that in parts of the Corn Belt, in little more than fifty years' cultivation, almost half of the normal humus layer has disappeared. This may be an overestimate, but the prospect of at least a partial replacement of clean-cultivated crops by soil-binding plants is extremely welcome. Corn will always, of course, be in demand as a concentrated feed. But a rotation in which clovers or other legumes appear much more frequently than at present is desirable. Such a farming system would not only be far less liable to lead to erosion but it would also maintain fertility by natural means, so far as the supply of nitrogen is concerned.

Substitution of hay crops for corn would further greatly reduce labor demands, since, even under the present system, hay crops require less labor than corn, while with mechanical mowing and drying the labor demand in hay making would be further greatly reduced. In view of these facts it is probable that, during the next few decades, the utilization of mechanical hay-drying devices will greatly expand. This will, of course, have a profound influence on our livestock industry. As only about one-third of our total acreage in crops is required to grow all the food used directly for human consumption, together with all agricultural products used as raw materials of industry, while the remaining two-thirds is devoted to producing food for animals, the probable influence of this factor on American agriculture needs no emphasis.

[1] See articles by Arthur J. Mason in the *Farm Journal* of February to May, 1927.

Electricity also promises much for future agricultural development. Up to the present time electricity has been of greater service in the farm home than in the field, and it is yet too early to say that it holds forth any great promise of cutting the cost of production of agricultural commodities. On the other hand, it would be rash to deny the possibility of its doing so. The Committee on the Relation of Electricity to Agriculture[1] has been carrying on valuable experimental work on the use of electricity in agriculture and has demonstrated that there is a practicable load on the great majority of farms. Since a very large part of the cost of electric service is for fixed charges, the problem of rural electrification resolves itself into developing a demand large enough to permit service at low rates. If the initial difficulty of small demand because of high rates and high rates because of small demand can be overcome, there is no telling how far farm electrification might go. In such matters the enthusiastic optimist is frequently the best prophet. Whatever the result in terms of cost, rural electrification can greatly lighten the drudgery of farming, especially for the farmer's wife, and this will be no mean achievement.[2]

It will be seen from the discussion on the preceding pages that agriculture is at the beginning of a period of fundamental mechanical changes in practically all lines of production. This process will undoubtedly leave its deep imprint also on the economic structure of agriculture.

[1] This Committee was organized at a meeting of representatives of the National Electric Light Association and the American Farm Bureau Federation and consists of representatives of these two bodies and of the Power Farming Association, the American Society of Agricultural Engineers and the U. S. Departments of Agriculture, Commerce, and Interior.

[2] There is a nice question of rate making involved in this matter. It costs much more to serve rural than urban localities but it is quite possible that a wide use of electricity on the farms might permit a reduction in urban rates below what they would otherwise be. This raises the question as to whether, in a distributing system covering a wide area, it would not be well to make rates which incline in some measure toward an even distribution of costs rather than toward an allocation based on the approximate cost of each unit of service supplied. This is a question to which Public Utility Commissions should give the most earnest consideration. The suggestion has been made that preferential treatment in the matter of taxes might be given as an inducement to the building of rural electrical lines. As a general rule such preferences are objectionable, but in cases of this sort, where the chief difficulties are in the initiation of the undertaking, the granting of inducements of this character would seem to be justified in at least as full a measure as were concessions to railroads extending their lines into new territory.

Of great influence on the evolution in agriculture will be the further fact that "we are only just now coming into the stage of effective and widespread application of scientific methods to the production of agricultural products as a whole."[1] Our agricultural experiment stations were inaugurated in the late eighties, while the county agent system was put into effect only thirteen years ago and in most counties is only a few years old. Evidently it is impossible that these and similar measures can have had their full effect already. Even today scientific methods of production are followed only by a small percentage of the farmers while the rank and file of the agricultural producers are following methods which often are far below those of the few scientific producers. But there is every probability that during the next years great strides will be made in overcoming this condition. The county agent system and agricultural extension work promise to reach effectively from now on a large part of the farmers, and a younger generation of men has grown up who are likely to be much more amenable to education by agents and literature than their fathers were.

Similar far-reaching changes are in prospect as the result of the rapid development of industrial uses of farm products, in the making of textiles, paper, building materials and other products the market for which is far more expansible than for foodstuffs alone. This and other improvements in the production of crops, the feeding of livestock, the treatment of the soil and the marketing of farm products depend in large measure upon research, experiment and the bringing into agriculture of the type of ability, initiative and attitude of mind which have gone so far to make other American industries successful.

What will be the effects of all of these tendencies on the economic and social aspects of agriculture? The Commission was overwhelmed by the magnitude of the task of finding a satisfactory answer to this question. It far exceeded the experience of the Commission as well as its resources. Only detailed studies by agricultural experts into each one of the

[1] E. G. Nourse: "The Outlook for Agriculture," paper read at the seventeenth annual meeting of the American Farm Economic Association held at St. Louis, December 30, 1926; see *Journal of Farm Economics*, Jan., 1927, p. 21 *et seq.*

problems concerned is likely to provide a satisfactory answer. Thus the Commission was forced in the main to leave the answer to the question open for later investigations. All that could be done by the Commission was to indicate the probable trend of the evolution in agriculture during the next decades.

It appears probable that the evolution will proceed along the following lines:

(1) A great increase in production is likely to take place. The more scientific producing methods and the efficient farm machinery bid fair to bring forth such a wealth of farm products that our present problem of surplus production may appear small, unless markets are expanded.

(2) The amount of human labor necessary per unit of output is likely to be greatly reduced. Together with the surplus problem this must lead to a large-scale elimination of workers (farmers as well as farm laborers) from agriculture. The process of elimination of workers is already well under way. Each new combine releases two wheat harvest laborers so that the 2,000 new combines which were placed this year on farms in Kansas alone have released permanently about 4,000 harvest laborers. This is the result of only one year in one state, although up to the present other branches of farming have been far less subject to this mechanization process than winter wheat growing.

(3) An increase in the size of farms is likely to take place. The size of our present farms was dictated, in the main, by conditions which prevailed seventy-five years ago. But the farmer of those times used two-horse plows, one-row cultivators, and grain harvesting machines which, in comparison with modern machines, seem crude. Modern tractors and combines, four-row cultivators and hay mowing and drying machines can be utilized efficiently only on large farms. These machines operate so quickly that they cover 160 acres in a few weeks, often a few days, and, on a 160-acre farm, would stand idle for a large part of the year. Efficient utilization of the hay drying machine investigated by the Commission, for instance, requires a combined farm size of at least 600 acres, but probably much more. It seems that with modern machine methods in the semi-arid parts of the

Wheat Belt the minimum size for the most economic use of the land is more than 1,000 acres. Larger farms than are at present typical seem therefore certain to develop.

(4) A tendency toward corporate methods in farming may arise. The investment in the large farms and the expensive machinery necessary from now on very often may far exceed the financial capacities of an individual farmer. Some of the new machines, moreover, require a group system of working which may expand the field of wage labor in farming and thus further tend to create capitalistic production methods. A desirable solution would perhaps be that a number of farmers would pool their resources and their working capacity and own and operate such large farms in a cooperative manner. With the individualistic habits of our farmers it is doubtful whether this would generally prove feasible, although it should certainly be tried. At any rate, it is possible that a great expansion of corporate production methods into the field of agriculture may take place. Our evolution in manufacture and commerce has involved a constantly larger employment of hired labor, and from many viewpoints it would be most unfortunate if a similar development were to take place in agriculture. It is desirable to keep in farming an open road to an independent competence for the man without capital.

(5) Farming is likely to become a more and more highly organized and specialized profession, to which men of exceptional scientific equipment and business ability will be attracted. In the productive process and in the organization of the business relations of the industry such men will be increasingly needed, and as the need for them is recognized and the ability of the industry to reward them is increased, agriculture will have the benefit of the leadership of the type which has been so vital in developing other fields.

(6) Great changes in the regional distribution of agriculture are likely to occur. Unless a satisfactory mechanical cotton picker should soon be placed on the market, cotton production may concentrate more and more in the western parts of the Belt where "sledding" is possible and the boll-weevil, due to the drier climate, is less dangerous, and where, therefore, the cost of producing cotton is much lower than

in the eastern parts of the Belt. This would throw the high cost eastern regions out of cotton production into corn and forage crops, a movement which would seriously react on the present livestock sections of the country.[1]

On the whole, it is likely that livestock production will tend toward the South where the long summers and the abundant rainfall make possible approximate continuity of operations during all of the year and where, therefore, the expensive modern machinery and also the labor of the farmer himself can be utilized much better than in the North. Other reasons, for instance, progress in the eradication of the tick and malaria, make it also likely that the South is on the point of becoming an important livestock producer.

How much time will be required for these and other changes to run their course is impossible to predict. As agriculture is in general so slowly moving an industry, it is likely that also the changes indicated above will proceed only slowly. This conviction was mostly responsible for the decision of the Commission to make its recommendations without an exhaustive study of the tendencies just sketched. About their existence there can be little doubt, but it may take a decade or two until their full effect becomes noticeable, so that the action of today cannot wait altogether upon the realization of these tendencies.

But it is clear that at present we are standing in an uncertain position in regard to agricultural development. What is advisable today may in a year or two be made entirely wrong by the progress of the tendencies outlined above or by a new force not yet discernible. This consideration should act as a conservative check on efforts at applying drastic relief measures to agriculture. Under conditions as rapidly changing as those of agriculture today, all such efforts are in danger of being based upon conditions which no longer may remain valid and of leading to more harm than good. It is, therefore, obviously necessary to be extremely conservative and cautious in the application of remedial measures.

[1] E. G. Nourse, *ibid.*, p. 27.

The Problem of Self-Adjustment in Agriculture

The preceding discussion goes to show that, whatever the forces that have been operating in the past to depress the relative position of agriculture, so far as the purely economic aspects are concerned the crux of the agricultural problem of the present and the future lies in the better adjustment of supply and demand, which includes the sound extension of markets for farm products, and in the reduction of the costs of their production. The profound changes in agricultural technique and organization which appear to be impending and which have been briefly described, may go far to aid in the solution of some of these problems, and sound agricultural policies must take them into account. But in formulating such policies it would be unwise to ignore or underestimate the importance of the inherent or peculiar limitations in the capacity of agriculture to adjust itself to changing conditions, or to overlook the wider social aspects of such changes.

It must be recognized, in the first place, that agriculture is subject to peculiar and exceptionally great hazards of weather, blight, plant diseases, insect pests, flood and fire. As will be indicated later, some of these hazards may be mitigated by future scientific developments, and the worst effects of them may be mitigated by organized effort; but it is clear that at best agriculture will always have to reckon with the unforeseeable and largely uncontrollable natural conditions which are the basis of its productive processes.

Of still greater significance is the fact that agriculture is fundamentally subject to great hazards of loss due to price changes, which strike it with peculiar force. Here again some mitigation of these effects may be hoped for from organized effort, but since, after every other form of control has been applied, agricultural production is inevitably dominated by natural conditions, it will always be subject to exceptional risks.

Of most fundamental importance is the fact that, because of the inherent characteristics of agriculture as it has so far developed, the adjustment of supply and demand and the reduction of costs by the improvement of production and the

elimination of inefficient farmers present formidable, if not entirely insurmountable, difficulties. Some of these difficulties have already been touched upon, but they are so important that they deserve emphasis.

A hundred years or so ago the number of farmers was a factor of almost no significance to their prosperity, provided there was an adequate supply of fertile land, as was the case in the United States. For the farmer at that time was an industrialist as well as a grower of crops and he supplied practically all of his needs in his own establishment. The differentiation of functions which has proceeded apace in the last century has resulted in a removal of the situs of production of more and more commodities from the farm to the city. The farmer has specialized. Instead of following a variety of pursuits he has concentrated his whole time and attention on agriculture and, of course, has been able to produce far more agricultural commodities than he could himself consume. He traded these commodities for the products which he had formerly produced for himself, but which now came from the city. His production thus became more and more commercialized, that is to say, he produced to a greater extent for a market. His prosperity began to depend to an ever-increasing degree on the prices received for his money crops, whereas in the old days, apart from natural calamities, it had depended solely on his efficiency as a general producer. In the old days adjustment of the production of the various commodities to demand was automatically achieved within each separate establishment through production of the things for which the demand was at the moment strongest. This was not an efficient system from the point of view of production, but from that of adjustment of supply to demand it was perfect. This is no longer true in the exchange economy that has developed, and the result is that efficiency and reward have ceased to be closely correlated. The efficient man will always be more prosperous than his inefficient competitor in the same line, but the industry in which both work may, for periods of greater or less length, be subject to depression, and both efficient and inefficient producer then earn less than men of equal ability in other fields of endeavor.

The number of producers in any field, therefore, is now of the utmost significance. If that number gets out of proper relation to the number of producers of other commodities and to the respective demand for the various products, normal exchange relations will be disturbed, the price of the relatively overproduced product will fall, the price of the relatively underproduced product will show a corresponding rise, and undeserved adversity will be imposed upon the one group and an equally undeserved prosperity upon the other.

A restoration of proper price relationships after a disturbance of this kind is largely a matter of the speed at which this adjustment among the several industries takes place. In this respect there is a marked difference between agriculture and manufacturing industry as they are now developed in this country. The manufacturer can discharge labor, introduce new machinery, change his product, reduce costs, or shift to other fields, not easily, but with comparative facility. The growth of corporate organization, of horizontal or vertical consolidations, and trade cooperation, the development of a more generalized type of professional industrial management, and, above all, the availability of abundant liquid capital, together with the fundamental fact that in most cases industrial costs are an expression of the time involved in production and marketing, all have combined to make the adjustment to changed conditions in manufacturing relatively easy, and to hasten the elimination of a surplus of workers or enterprises in any field. In agriculture, on the other hand, with its numerous scattered, largely unrelated establishments, its small proportion of hired labor, its relatively large fixed capital, its slow turnover, its combination of business and industry with a home and a way of life, its lack of corporate or other flexible forms of organization, the perishability of its products, and the fundamental control of its productive process by natural processes in which time is an irreducible factor, adjustment is slow and difficult. The relative facility of adjustment in manufacture is not due to superior ability in the industrialist nor altogether to organization, but to a difference in the underlying forces which dominate the respective industries and which

have evolved entirely different types of producing unit. These forces have the quality of natural laws and neither the farmer nor the industrialist is responsible for them.

If the changes in agricultural technique and organization described earlier, which are summed up in the phrase "industrialization of agriculture," go forward rapidly in the next few decades, these inherent differences between agriculture and industry in flexibility and speed of adjustment may be greatly modified. But for a long time at least it is certain that agriculture will be confronted, as it has been in the past, with the stubborn fact that, while improvements in methods to secure reduction of costs may be to the national advantage, they tend to depress the position of agriculture unless they are accompanied by the elimination of some producers or the extension of markets.

Since the industrialist can count upon a fairly quick adjustment of the number of producers to the demand, he can, when prices fall, proceed energetically to cut his costs in the confident belief that in this way lies salvation. The farmer can not reasonably have any such confidence. As an individual, he has slight opportunity for cutting his costs save by increasing production. He may, of course, eliminate waste in the production process, such as results from excessive depreciation of machinery due to lack of proper care, from improper feeding of livestock, etc., but agricultural production is basically a biological, not a mechanical, process, which requires a relatively fixed period of time, so that costs can be reduced only by increasing the production in this period and not by reducing the time required per unit of product. If the farmer increases production per acre, prices will probably fall still further. If, by more extensive cultivation, he increases production per man, prices may not fall as far, but there will be a greater surplus of labor which, if demand does not increase, must be eliminated before prosperity can return. This is, of course, also true when production is increased per acre, but there is then the additional necessity of eliminating a larger acreage than would otherwise be necessary. In either case, unless there is an increase in demand, the number of producers must be reduced. The slow rate at which adjustment proceeds in agriculture may, therefore,

easily bring it about that a cutting of costs by improvements in production may make the situation worse.

All proposals for the relief of the farmer must reckon with the considerations just advanced. Improvements are highly desirable in the social interest. They are necessary if we are to continue to compete in a fair field with foreign producers, and in the crops and regions of low gross income they are essential to prosperity regardless of competitive conditions. But such of them as tend to increase the volume of production must be linked with measures for increasing the demand for agricultural commodities or for eliminating the less efficient producers, or they are likely to prove disastrous to all farmers in the near, if not in a more remote, future.

The efficiency of the farming population as a whole may, of course, be gradually raised by the tedious process of education, but it is far from certain that farmers as a class are now less efficient than any other group of individual producers. The real problem is to raise the average efficiency still higher by eliminating altogether a larger number of the inefficient. Here again there is a marked contrast between agriculture and manufacturing. The development of large scale manufacturing, with a normal tendency toward lower costs per unit as the volume of production of any given plant is increased, has operated to iron out the differences in efficiency between the various establishments. Enterprisers with high costs tend to be quickly eliminated and their business taken over by their better organized competitors. The increase in the business of these firms leads to a further lowering of their costs and a further elimination of the laggards. This process is ceaseless and results in a high and fairly equal efficiency on the part of all competing units. All firms, in any one section of the country at any rate, have practically identical costs for labor and materials, and their differences in organizing ability are the sole determinant of survival. But the inefficient producer can stay in agriculture indefinitely. The ratio of cash outlay to gross income is normally much less in agriculture than in large scale industry, labor is the most important factor in costs, and the flexibility of payment of this labor factor is great. For these reasons agriculture attracts a residuum of inefficient men.

Such men will, of course, always be poor, both in performance and in the return received. Their presence keeps prices low and makes it difficult for capable men to earn a return commensurate with their ability.

If men of this type remain in agriculture, it is as vagrant tenants incapable of acquiring a competence, but effective in lowering the condition of the whole industry. As has been seen, the number of such tenants tends to increase. Tenancy has it defenders, but from the point of view of society as a whole, and with the type of agriculturalist which we want, not much is to be said in its favor. As a step toward ownership it is to be commended, but this step should be prevented, if possible, from becoming unduly steep. Rising land values are not a national asset when the increases in value do not represent improvements put into the land. They simply add to overhead costs and give an unmerited advantage to the established man as against the young man who is just breaking in. If farming is to take its proper place in the national economy, it must furnish a decent living to the farmer on his productive operations, and not a precarious mixture of farming and land speculator's incomes. It is in the national interest to keep the value of land from rising, so that energetic young men without capital may find it not too difficult to make their start in farming. They should seek their return not as interest on investment but as wages for labor and profits of management. If prices of land can be kept down relative to the incomes obtainable therefrom, the reward to the farmer as laborer and enterpriser will be raised to that which he deserves. If unduly high prices of land increase the obstacles to the advance from tenancy to ownership, as they surely do, agriculture as an industry may be receiving a larger share of the national income but much of it will enure to non-operating owners. We shall then have absentee landlordism fully developed.

The form taken by tenancy is almost as important as the fact. The type of tenancy now prevalent, especially in the South, is ruinous to the land. Where tenants are changed frequently, there is of course no interest on the part of the tenant in the preservation or up-building of the soil.

The Social Aspects of the Agricultural Problem

It is clear, therefore, that in its economic aspects the position and future development of our agriculture presents some of the most formidable problems that can be put to the individual and collective intelligence of our people. No national policies that may be formulated to meet them can be complete and sufficiently far-sighted or far-reaching without a clear apprehension of the significance of their social aspects and a clear realization of their aim. The vast changes that appear to be in process in our agriculture may solve these economic problems and yield a larger and fairer material prosperity for the farmer. Such prosperity for the agricultural industry and the farming business is not of itself enough, however. Our agriculture embraces a quarter of the American people and in the past it has connoted a type of citizen, an attitude of mind and a way of life. It is of the highest importance to the nation to know how changes in agriculture that may make for greater prosperity may also alter all these in the future. A certain degree of prosperity is essential to a full life, but that full life, and not prosperity alone, is the end at which we should aim. Agriculture bears promise of providing an ideal medium and environment for the highest type of living, but this promise has scarcely anywhere in this country been even approximately realized.

The Commission was deeply impressed with the numerous unsatisfactory social aspects of our agricultural situation. Our farms are obviously far behind our cities in supplying the social advantages to be expected in a country of the advanced standards of the United States. All those opportunities which are dependent upon a certain concentration of population, such as various forms of specialized education, medical service, public utility service, amusement, and the like, have been difficult to obtain in rural life. The situation in these respects is improving, but much remains to be done.

More significant than this is the fact that, though the long-time trend in the material prosperity of the farmer relative to that of urban workers is somewhat obscure, the proportion of farmers to our total population, and even their absolute number, is undoubtedly undergoing and is likely

to undergo a rapid decline. This is, to a certain degree, inevitable and, as a reflection of increasing productivity and progressive elimination of the unfit, it is eminently desirable, but in so far as it represents a falling off in our ability to sell farm products in foreign markets, or even to remain self-sufficing in the production of those articles to which our soil and climate are well adapted, the case is not so clear. We are treading the same road as has already been traversed by the Western European nations and many voices are raised in those countries to say that the result is not desirable. Those nations were driven along this road by necessity, if, with their small area, expansion of population was not to be sharply checked. We are not subject to a similar necessity and there is perhaps no great prospect that we shall ever show so high a degree of industrialization as prevails in Great Britain, Belgium, or even Germany. But it is an open question whether we have not already gone far enough in our industrialization, and whether, if we do not take thought in the matter, we shall not go too far.

From the social point of view there are potentialities in rural life which nothing else can supply. It is perhaps not clearly proven that the human social stuff which is developed in a rural environment is of better quality than that which issues from the city, though there is some reason to suspect that this is true. But quite aside from this, farming is the one great industry, or group of industries, still remaining, in which a young man of small means can undertake an independent, self-reliant type of life. It is perhaps not too much to say that the more farmers a country can keep busy and prosperous, the sounder will be its social structure. The peculiar genius of our people traces back to a frontier life. The sturdy individualism which plagues the farmer in some directions is nevertheless a quality devoutly to be guarded. The opportunity to live by one's own direction, to choose a somewhat ill-rewarded independence, to work at a task which calls for skill and care and judgment, and is inexhaustible in its possibilities for experimental study, is not lightly to be lost. To many men work of this sort is essential to happiness, and the nation needs just such men. The process of attrition of agriculture which is now going on in

this country is a matter about which we may well feel deep concern and which calls for the earnest application of constructive statesmanship.

The social aspects of the agricultural problem are by no means confined to the farming population. We must take thought of the place which agriculture is to occupy in the nation's future economy, of the relations between rural and urban populations, of the type of civilization which we are developing, and how we might mould it nearer to fundamental human ideals. Shall we permit agriculture to shrink to the status of a minor industry? Is there virtue in having a population rooted in the soil and distributed fairly evenly over the face of our country or can we look on with equanimity as that population becomes concentrated in great cities? What of the relations between sections? Are the two coasts to develop at the expense of the central region? Are we to suffer our export trade in farm products to wither away while we confine our attention to producing, for home consumption only, the agricultural products to which our soil and climate are adapted? Or shall we go even beyond this and rely in larger measure on foreign countries for the products that our farms might produce? These are questions not of the future alone; they are being answered today by the policy or lack of policy which we now pursue.

So, too, in regard to the basic question, what of the land? Is our heritage to be handed on to future generations unimpaired? Shall we use the land conservatively or waste it as foolish heirs of a fortune to the use of which we have not been properly reared? Will your countryside of the future be green and fertile, or ugly, sere, and barren? To what extent is the denudation of the land of trees responsible for destructive floods and loss of surface soil, and are we not likely some day to rue the lack of timber we now so recklessly destroy? These and similar questions are not purely rhetorical. Some of them open up problems of policy on which different opinions may be sincerely held, but some raise questions of fact to which there can be but one honest answer.

The relative shrinkage of agriculture and wastage of our basic resources are not inevitable. A change in national

policies would check it and natural forces may gradually come to play a part. If, for instance, foreign countries should improve their productivity more rapidly in manufacturing industry than in agriculture, farming in this country for the export trade would be stimulated. As newer lands fill up, and as they develop their own industries, it will be necessary for some of the older countries to retrace their steps. This will naturally occur in those countries which have relatively good facilities for agriculture. Agriculture in older countries, and now even in the United States, is subject to excessive competition from new areas which live for a time on their capital of fertile soil and sell their products at less than their real cost. Farmers in these countries take part of their return in rising land values, just as they have long done in the United States, and they are, for a time, not under the necessity of restoring fertility to the soil. It is certainly questionable whether it is worth while to permit our agriculture to decline under pressure from these lower cost areas and then, at some time in the future, when the new areas can no longer obtain their present yields at the low cost which now prevails, and when they will consume more of their own agricultural production, to attempt the difficult and costly process of restoring what we might now preserve. Intelligent dealing with the problems of agriculture requires an answer to the question of how much and what kind of agriculture do we want? It is possible, as one alternative, so to favor agriculture by tariffs and bounties as to lead to a production sufficient to support a very large net export of agricultural commodities. It is possible, as a second alternative, to give no favors either to manufactures or to agriculture. Under such a system, our export of agricultural products would probably be equal to our import and we should in all likelihood remain at least self-sufficing in the production of cotton, corn, wheat, and hogs for many years to come. Finally, it is possible to continue to encourage manufacture as we have encouraged it in the past. Such a policy will almost certainly be accompanied by a relative and probably by an absolute decline in agriculture.

Instead of an unreasoning adherence to the policy of protection as such, we should seek to use the tariff and other

national policies as tools for effecting desirable discriminations in the long run interest of the nation. Some types of agriculture take little from the soil and others much. Some make for enormous loss by erosion and others keep the soil intact. National policies can be made part of the machinery for promoting the most desirable use of our natural resources. The growing complexity of our society and the diminution and, in some cases, approaching exhaustion of our heritage of land and natural resources, require earnest attention to the whole question of utilization of the land. The succeeding pages will, therefore, consider not only the ways and means of improving the conditions of the individual farmer but also those through which agriculture may take its due place in the economic structure of our nation and contribute to the nation's welfare at the same time that it is advancing its own.

PART III: MEASURES FOR AGRICULTURAL IMPROVEMENT

INTRODUCTORY

THE ways of approach to the problem described in the preceding chapters are many. It is clear that the condition of American agriculture presents no single and simple problem, but rather a great complex of interrelated problems, economic, social, political and cultural, differing greatly as between the sections of the country, branches of the industry and groups of farmers engaged in it. It is equally clear that these problems are constantly changing their aspect from year to year. The Commission could not feel that any of the measures of improvement that it has considered could be expected to do much more than touch this vast, changing array of problems at certain points, nor that most of them could be expected to work their influence for more than a certain period of time and under given conditions. The Commission has been impressed that in this vast field, as in most of the great problems of national life, a certain measure of faith must be placed in the power of time and natural forces to remove ephemeral difficulties and effect adjustments.

These considerations, however, do not alter the Commission's firm conviction that the preservation and improvement of our agriculture presents to the American people a national problem which commands their earnest thought and public-spirited action. In this important question everything cannot be left in the lap of time. In relation to it there is a rôle and responsibility for the individual citizen, for the farmer and his organizations, and for the other great economic and social groups, as well as for government as the guardian of the interests of the community as a whole. Without the continuous, intelligent concern and earnest cooperation of all these there can be no assurance that the national interest which attaches to our agriculture will be adequately safeguarded.

Finally, the Commission feels that such effort as is made

for the improvement of our agriculture cannot safely have in view solely the betterment of the economic position of the farmer. In agriculture no more than in any other activity is material welfare the ultimate or most important test of progress. The broad effect on the quality of rural life and on the character of our farm people is the end which every measure of economic improvement must have in view and the standard by which it must be tested.

It is with these considerations in mind that the suggestions for the preservation and improvement of American agriculture in the following chapters are presented. The Commission did not feel it to be within its province to discuss technical questions of farm operation and marketing, nor, where government action is contemplated, has it undertaken to suggest details of legislative measures. The suggestions offered are concerned only with general means of improvement of both the economic position and the quality of our agriculture.

It is evident that every measure for the improvement of the economic position of the farmer must relate to the possibility either of increasing his gross income or decreasing his costs of production, or to both, and it will be seen that all of those suggested measures which do not bear directly upon the quality of our agriculture fall mainly under one or the other of these heads. Measures intended to increase agricultural gross income in turn have in view raising the prices of farm products, extending the market for far farm products, whether the prices be raised or not, or making the farm income more stable in relation to costs of production by reducing the hazard and the loss due to price fluctuations. Measures of this kind are among the most important and they are therefore considered first in the succeeding discussion.

CHAPTER IV

INCREASING AGRICULTURAL INCOME BY LEGISLATIVE ACTION

THE economic position of agriculture would obviously be improved if farmers could secure higher prices for their products, or find markets for more of them at prevailing prices, or reduce the costs of their production. It has been recognized by those interested in agricultural improvement that the reduction of costs of production and also the extension of agricultural markets is necessarily a slow and difficult process which, for the most part, does not depend so much upon legislative action as it does upon other factors. For this reason those who feel that some immediate public action for the relief of agriculture is necessary have turned to various proposals for legislation designed to raise the price of farm products relative to the price of other commodities.

It is quite possible to accomplish this end by legislative action, but it can be done only by means which, in one way or another, artificially and arbitrarily alter the relation between supply and demand in agricultural commodities and affect the market for them. This Commission is, in general, opposed to the principle of such action by government. It believes that such action is not conducive in the long run to sound economic development, and that it opens the way to operation of political or private forces difficult to control in the general public interest. The Commission recognizes that, in the protective tariff system, legislative policies which thus affect the prices of commodities have already been adopted and are woven into the fabric of our economic system. It believes that, under the conditions of our economic development in the past, such policies have been beneficial both to industry and to agriculture, though not in equal degree, and it realizes that they cannot be radically and suddenly altered

without serious injury to both. But, under the conditions that now prevail, the Commission can not endorse any proposal which would radically extend the scope of such policies, and it feels rather that serious consideration should be given to the possibility of gradually narrowing and equalizing their application in the future.

Accordingly, the Commission finds it impossible to support any of the legislative proposals of the type represented by the McNary-Haugen bill and others[1] which, by artificially restricting the supply of agricultural products in the home market, or by the payment of export bounties on farm prod-

[1] The following are the more important and recent of the many bills of this type which have been introduced in Congress during the past few years:

S. 3091, 68th Congress, 1st Session. The first form of the McNary-Haugen Bill, involving the idea of raising agricultural prices to a certain ratio to non-agricultural prices, through an export corporation, equalization fees and increases in the tariff on farm products.

S. 4206, 68th Congress, 2nd Session. The second form of the McNary-Haugen Bill, dropping the idea of fixing specific price ratios, but utilizing an export corporation and equalization fees to raise prices so as to make the present tariff effective.

S. 4808, 69th Congress, 2nd Session. The third form of the McNary-Haugen Bill, vetoed by President Coolidge. In this form the bill does not explicitly express the idea of raising agricultural prices through disposal of the surplus abroad, and the provision of a specific export corporation for this purpose is discarded. But a Federal Farm Board is established, which, through the use of Federal funds, equalization fees and the agency of cooperative or other organizations, would have the same effect.

H. R. 6563, 69th Congress, 1st Session, called the Dickinson Bill, similar to the third McNary-Haugen Bill, but explicitly providing for removal of surplus from the domestic market.

S. 3446, 69th Congress, 1st Session, by Senator Brookhart, providing for an export corporation to purchase farm products, sell them abroad, and cover losses by an excise tax.

S. 4398, 68th Congress, 2nd Session, by Senator Frazier, providing for the purchase of farm products by the Federal government at fixed price ratios, losses to be paid out of the Treasury.

S. 2289, 69th Congress, 1st Session, by Senator McKinley, providing for export debentures.

S. 3509, 69th Congress, 1st Session, by Senator Robinson, providing for cash export bounties, and an export corporation.

S. 3459, 68th Congress, 1st Session, by Senator Bursum, providing for temporary payments of export bounties on wheat.

S. 2623, 69th Congress, 1st Session, by Senator Robinson. This bill would establish an export corporation to dispose of the surplus by making loans to foreign purchasers of farm products. The bill may not be considered to attempt price raising so much as it does the extension of the foreign market, and would therefore fall in some degree under the class of measures contemplated in tariff adjustment or price-stabilization. It should be noted, further, that nearly all of the bills mentioned contain or imply some features intended to stabilize agricultural prices as well as to raise them. This aspect of such proposals will be considered in the following chapter.

ucts, aim to raise the domestic price of agricultural commodities above the world market price. The Commission believes that the interests of American agriculture would be better served by intelligent and discriminating effort to diminish gradually those trade restrictions and tariffs on manufactured commodities which tend to reduce the foreign market for agricultural products. Until such time as the foreign market for farm products can be materially improved in this way without, at the same time, injuring the domestic market for them, agriculture should be given the fullest possible advantage of such tariffs as will protect its domestic market against foreign sources of supply. In short, the Commission believes that efforts should be made more nearly to equalize as between agriculture and manufacturing industry such benefits as the existing protective system can afford to both, without embarking upon new and extraordinary means of applying that system to agriculture.

Objections to Price-Raising Agricultural Legislation

The essential feature of proposals of the McNary-Haugen type is that they would extend the protective tariff system to all agricultural commodities of which a surplus is produced in excess of domestic demand in the United States by artificially removing that surplus from the domestic market, to the extent that it may be necessary, and thereby raising the price of these products in the domestic market above the world market price by an amount approximately equal to the tariff which it would be necessary to pay to import such commodities. This surplus would be withheld from the domestic market by some special agency, or by paying to exporters in some form a sufficient amount to enable them individually to purchase the commodity and sell it abroad.

The McNary-Haugen plan provides that the Federal government should establish and maintain certain agencies which directly or through intermediaries would purchase and withhold from the domestic market as much of any crop as would be necessary to raise the domestic price to a desired level. Other legislative proposals would authorize the Fed-

eral government to pay to exporters of such commodities the difference between the world price which they would receive for the commodities and the domestic price which it is desired to establish and at which the exporters would purchase the products. The third kind of proposals of this type would pay this bounty to exporters of the commodities in question in the form of certificates or vouchers, called debentures, instead of in cash. These debentures would be legal tender at face value for the payment of customs duties on imported goods of any kind. The exporter would thus sell his debentures to importers or to foreign shippers of other goods for cash, and the latter would use these debentures instead of cash to pay import duties on products which they brought into the country.

It is obvious that, no matter which of these methods were used to remove the surplus from the domestic market and to raise the domestic price, the difference between the price at which the commodities would be sold in the world market and the price at which they would be bought in the domestic market would necessarily be paid by some one. Proposals of the McNary-Haugen type contemplate that this loss should be paid in the first instance by the farmers who produce the commodity in question through an excise tax, called the equalization fee, which should be levied upon those farmers or upon the product at some stage in its passage from the farm to the consumer. Those proposals involving a cash export bounty would either have the bounty paid out of the Federal treasury, or out of equalization fees or excise taxes of the sort just mentioned. Those proposals involving export debentures would involve no direct payment of the loss on exported commodities. That loss would appear only in the form of a corresponding reduction in customs revenues received by the Federal government from dutiable imports on which the debentures would be used. To the extent that this reduction in customs revenues would have to be made up from internal revenues, the loss would, of course, be paid by the taxpayer in the same way as if it had been paid out of the Federal treasury originally.

There have been many variations of these proposals and combinations of them with plans intended for other pur-

poses. But whatever the various means employed, the essential object is to give the American farmer a higher price on those commodities of which he produces a surplus, by subsidizing the sale of the surplus in foreign markets at the expense of the general public. To the American producer of farm products to which they apply, they would give an increased income by giving him a higher price on the portion of his product sold in the domestic market instead of increasing his income by giving him a wider market for all of his product at the normal market price.

The Commission does not challenge these proposals so much on the ground of their impracticability. Though it has grave doubts as to whether, in certain of their forms, they could be practically carried out without enormous and expensive machinery, there is no reason to doubt that the government could find a means of accomplishing their end if the public were determined that it should do so and were willing to bear the cost. The Commission cannot endorse these proposals because it does not believe that they offer an effective and desirable way of permanently improving the economic position of agriculture as a whole.

The more important reasons for these conclusions may be stated briefly as follows:

First, any general increase of the price level of agricultural commodities in the domestic market accomplished by artificial means, if it is to be effective, would involve continuously increasing costs if these costs were paid out of the public Treasury; and if they were borne by the producers of the commodities, such measures would defeat their own end. The rise in prices would almost necessarily increase production and in some measure decrease domestic consumption. The possibilities of expansion of acreage in most of the important crops are large. Past experience has shown that acreage and production respond very sensitively to advances in price. Furthermore, the increasing application of scientific methods, improved machinery and cheaper fertilizer in agriculture tends to make a large increase in production practically unavoidable with even a slight incentive in the form of higher prices. The agricultural industry now lacks and will probably lack for a long time effective organization for the control of production.

Moreover, although in the aggregate the demand for farm products for food purposes is fairly constant regardless of the price, there is bound to be some shifting of consumption from the more expensive types of food to cheaper ones if prices should rise sharply. On the other hand, the demand for those farm products which are used for industrial purposes would be considerably affected by price changes. It seems certain that measures of the McNary-Haugen type would tend not only adversely to affect domestic demand but to produce a shifting of acreage from the low-priced crops to those in which the price has been artificially raised, and that for a long period, therefore, the surplus which it would be necessary to export would tend to increase. No matter how the loss on this surplus would be borne, that loss would tend also to increase, because the increased volume to be disposed of in foreign markets would tend constantly to lower the price at which it could be sold. If the loss were borne by the government directly, or in the form of export bounties or in the reduction of customs revenues resulting from larger use of export debentures, the burden would tend to grow so long as it were determined to maintain the domestic price at the level desired. If the loss were defrayed by a tax upon the producers, that tax would have to be constantly increased, so that the net price received for the product by the farmer would tend constantly to grow smaller.

Secondly, even though the process were persisted in to the bitter end, and larger and larger surpluses were sold abroad at constantly lower prices, it is certainly probable that foreign producers of these commodities, either in the countries where the surpluses were disposed of or in other exporting countries, would take retaliatory measures to prevent such dumping. Importing countries would be likely to protect their own agriculture against exports from the United States by higher tariffs or special anti-dumping duties. In the face of such duties it would be necessary to sell our agricultural exports at still lower prices in order to secure entry into the foreign markets at all. Thus the actual market for the whole of the American production would be progressively restricted or become less favorable.

Third, not only would these measures tend actually to

narrow the foreign market for the products but they would tend indirectly to reduce the absorbing power of the domestic market, quite apart from the fact noted above that higher prices of themselves would tend to reduce domestic consumption. In the first place, the artificial stimulation of constantly larger exports of surpluses would be likely indirectly to hamper or restrict the foreign market for our exports of manufactured products, because, other things being equal, the more farm products we would sell abroad by these means the less of our manufactured goods could foreign countries buy. In the second place, the supply of foods and other farm products to European industrial countries at artificially depressed prices would tend to lower living costs abroad and to give an advantage to foreign manufacturers competing in our own or other markets with our industrial products. It would, in fact, stimulate the transition of such countries from agricultural to industrial pursuits. These proposals would thus tend to depress those of our industries manufacturing for export as well as some important industries manufacturing for domestic consumption.

Fourth, it is likely that the increasing price to American farmers under such proposals would not be altogether a net gain in income, even though the total cost of such measures were borne by the public, for the farmers' own production and living costs would tend to be increased. At least the increasing price would be of no permanent advantage for the farmer. For one thing, past experience has shown that high prices of farm products and consequent larger incomes for producers of the subsidized commodities would be immediately capitalized in higher land values for all farmers. The higher land prices might be a net gain for those farmers who were selling their property and quitting farming, but for those farmers who remained farmers, or those entering the occupation, higher land values would mean larger capital charges and so, in turn, smaller returns for their labor. Thus the permanent tenure of farmers and the recruiting of new and efficient farmers would tend to be hampered. Moreover, the higher prices for the crops covered by these proposals, though they might be of advantage to some farmers, would mean higher production costs for those farmers who used these crops

in their production process. Large numbers of farmers, especially in the East, are purchasers of corn and mill products for feeding dairy or beef cattle or poultry. Higher prices for these commodities would mean a disadvantage for livestock producers and dairy farmers. Since diversified livestock, and especially dairy, farming is of great importance for the long run interests of our agriculture as well as of the nation, because it conserves soil fertility, any measure which hampered the development of such diversification would be unsound.

Finally, it does not appear to the Commission that the unwisdom of such proposals is materially lessened by those features of them which, through equalization fees or excises, would tax the producers of the products in question to defray the loss incurred in exporting the surplus. On the contrary, the use of the equalization fee or excise tax upon producers would involve unjust and legally questionable taxation of a special group which is perhaps least able to bear it. However the cost of raising the domestic price is paid, of course, a consumption tax would be imposed upon the consumer by higher prices for the necessaries of life. Thus the burden of such projects would rest both on the farmer in the first instance and ultimately on consumers who are in large part wage earners or persons of small incomes. There would thus inevitably result a relative increase of tax burdens upon classes with relatively small capacity to bear them. The Commission feels that, if such projects were undertaken at all, it would be far more equitable as well as simpler to pay the loss involved by granting a direct bounty on exports out of the public treasury. In this case at least a share of the burden would be shifted to that part of the public which pays Federal income taxes, in so far as it could not be shifted by them to the consuming public. In any event it is clear that these proposals would involve an enormous redistribution of tax burdens without regard to the constitutional principles of uniformity and equity.

In short, measures of the McNary-Haugen type might give an immediate advantage in the form of higher prices to certain groups of farmers, at the expense of the public, but this advantage could not be permanent except at constantly

increasing costs to the community, and in the long run such measures could be of no permanent benefit to American agriculture as a whole, because they would tend to diminish the gross agricultural income by narrowing the agricultural market and would tend to increase agricultural costs by raising the price of the things the farmer buys, increasing the capital charges upon the industry, discouraging permanent tenure and efficient farming, and helping to exhaust the soil fertility. Rather than risk these dangers for a temporary advantage to a special group of farmers by arbitrarily raising the price of the output of certain crops, the Commission believes the aid of Government can be more wisely invoked to increase the income of agriculture as a whole, by extending naturally the markets for all agricultural products and by stabilizing the income of farmers through lessening the hazards and reducing the losses due to fluctuations of agricultural prices.

Improvement of Farm Income Through Tariff Readjustment

The existing system of protective tariffs on manufactured products and agricultural commodities unquestionably has definite effects upon the extent of the market for farm products and upon the costs of their production, and in these ways undoubtedly has considerable influence upon the economic position of the American farmer. These effects are not simple or single in character, and the problems to which they give rise can not be disposed of in any sweeping or summary way.

The protective system as it stands today is the product of a long process of evolution and growth and has become inextricably interwoven into the whole fabric of our economic life. At the beginning of our history as a nation agriculture was the dominant industry. On the basis of virgin land resources it not only supplied the foundation of American prosperity but for at least a century it was able to extend its foreign markets against the competition of farmers in the older agricultural nations. The far-sighted statesmen in the infancy of the United States saw the danger of permitting her economic future to depend solely upon those land re-

sources and upon agriculture, and they sought to develop a well-rounded and better balanced economic system by stimulating the growth of manufactures through tariff protection upon manufactured products, which the European industrial nations were then able to produce more cheaply than the United States. This policy was wise and it was successful. It enabled us to develop what is perhaps the greatest industrial system in the world, but it inevitably reduced the relative importance of agriculture in our national economy. The great question of the future, in the view of this Commission, is whether this policy has not fully served its purpose, and whether, indeed, it has not been pushed so far as to endanger the balance between agriculture and industry and so warrant such readjustment as may distribute its advantages and its burdens more fairly. In answering this question, there are three distinct aspects of the tariff problem to be considered: First, the influence of tariff and trade restrictions upon the extent of the foreign market for farm products; second, their influence upon the domestic market for farm products; and third, their influence upon production costs in agriculture.

Through the protective policy we have passed from a condition of overspecialization in agriculture, with a large and profitable export trade in farm products, to a position in which, though still self-sufficient in our staple foods, we may foresee the time when we may be dependent upon foreign sources for a large part of our food and raw materials. In the meantime, our manufactures have grown until we not only supply the bulk of our own vastly increased requirements for a high standard of living but are able to export large quantities of manufactured goods in competition with the producers of other nations. As our productive power has increased in certain branches of industry, we have sold increasing quantities of these products abroad. But as we have raised a tariff wall against those foreign manufactured products which we could not produce as cheaply as foreign manufacturers, the ability of European markets to purchase American farm products has diminished. Since the war the difficulty of disposing of our surplus of farm products in foreign markets has been increased by the tremendous decline in purchasing

power of the European nations, by their burden of internal indebtedness, and by their increasing indebtedness to the United States. These nations have been forced to become more self-sufficient in agricultural production and they have been compelled to purchase their foreign supplies from countries which could receive more of their exports of manufactured products or supply farm products more cheaply. Our exports of manufactures and farm products to Europe have in recent years been sustained in large part by private loans and credits, but these have tended more to stimulate the purchase of machinery and similar manufactured goods than to expand the market for agricultural commodities or for products made from them.

As regards its domestic market, there is no doubt that American agriculture has in some measure benefited by the tremendous industrial development which the protective system has created. The great increase in the urban population relative to the farm population has undoubtedly meant a relative expansion in the domestic market for farm products, which has been to the advantage of the producers. This is reflected in the fact, indicated in earlier chapters of this report, that throughout the period of our most rapid industrial development the prices of farm products have tended to increase relatively to those of manufactured commodities. It may be questioned, however, whether this expansion of the domestic market has more than offset the relative narrowing of the foreign market, especially in recent years. It is likely rather that, under conditions that prevail today, and for the reasons already stated, the principal effect of the protective tariff upon the American farmer is to restrict the market for those products of which he produces a surplus above domestic needs. Many of the more important industries upon which American prosperity depends and which have been built up by tariff protection are no longer dependent upon that protection. They can produce as cheaply as foreign nations and are able to sell abroad much more of their products than are imported. The high purchasing power of our population engaged in those industries is now the result of their great productiveness and no longer of tariff protection. It is only in those industries in which we

can not produce as cheaply as our competitors that the purchasing power of the domestic market is materially sustained through protection. The inability of these industries in foreign countries to sell more of their goods in the American market, however, reduces the purchasing power of these countries for American farm products of which we produce a surplus, so that what has been gained at home has in part been lost abroad. In many instances these foreign manufactured products are specialties or luxury articles which are not produced or are insufficiently supplied by American manufacturers. Larger importations of them would absorb some of our domestic purchasing power and might cause some shifting of labor and capital to other industries, but these changes would be unlikely to diminish the purchasing power for farm products in the domestic market as much as they would increase it abroad.

The tariffs on farm products of which we do not produce a surplus are, of course, directly beneficial to the farmer, because they enlarge the domestic market for his goods or raise their price. At the same time they tend to divert farmers from producing crops of which there is a surplus and so improve the foreign market for these commodities. Even in this respect, however, the Commission feels that the use of the protective tariff must be applied with discrimination if the long run interests of American agriculture as a whole are to be safeguarded. It is vitally important to give protection to those branches of the agricultural industry, like certain types of truck gardening, dairy farming, livestock production, and sheep raising, which make for more extensive diversification and in part for conservation of the soil fertility. In certain other distinctively American crops, like corn, there may be special reasons for giving protection as needed. Corn is not only of importance for livestock production, but its by-products are likely soon to have a wide domestic market for industrial uses. There would appear to be no good reason why it should not be protected against the competition of low grade labor in those countries like the Argentine, where production is being extended by exploitation of virgin land, and where the shipper has the advantage of low rates of transportation by water to the Eastern and Western sea-

board of the United States in ships carrying corn as ballast. It is questionable, however, whether tariff protection should be used to stimulate larger production in those branches of agriculture which can be carried on only through the use of low paid labor, or by types of farmers content with low standards of living, or by methods which would exhaust our land resources or utilize them in an inefficient way. The tariff in agriculture, as in other fields, is a double-edged and dangerous weapon. Though it may make for the temporary advantage of certain branches of an industry, it may in the long run be harmful to the interests of the industry as a whole.

Finally, the tariff may have both direct and indirect effects upon the costs of agricultural production, although it does not seem to the Commission that these effects are of as great importance as are those upon the market for farm products which have been discussed. As an employer of labor, the farmer is in a measure compelled to bid against the higher wages in urban occupations. The high levels of wages in manufacturing industries and other urban occupations are in part the result of immigration restrictions and of the large demand for urban workers, but in the main they are the result of the high productive power of unprotected manufacturing industries, rather than of the tariff in protected industries. As a consumer, the farmer bears a burden through the tariff no greater than, and probably less than, other consumers. He purchases relatively less manufactured products than the urban consumer; he bears less of the burden of high urban rents and other services which reflect high manufacturing costs and high urban wages; and these high wages and costs are in any case the result of the inflated demands of urban consumers and of other factors, rather than of the tariffs on manufactured goods. As a purchaser of materials and machinery which enter into his production the farmer buys few manufactured products which are not on the free list or which are not sold in this country as cheaply as abroad. It sometimes happens that lower distribution costs abroad enable retail dealers in foreign countries to sell at lower prices even though the price at the factory was the same to all buyers; but discrimination between foreign

and domestic buyers seems on the whole to be comparatively rare and unimportant. The prices of manufactured commodities have in any case shown a downward trend for more than two years. In general they are not much above the low point of the 1921 depression, and in some cases, as in fertilizers and agricultural chemicals, they are not much above the pre-war level. This decline is due to many factors, partly conditions of world trade and partly the increasing efficiency of manufacturing production. A sweeping and sudden reduction of the tariff might easily precipitate a further and more drastic decline, but this could bring only more harm than benefit to the farmer, because, though it might reduce his living and production costs in some measure, it would be likely even more to reduce the domestic market for his products and lower their prices. The readjustment of the tariff from the point of view of the interests of agriculture can not, therefore, be based primarily upon its immediate effects upon costs of production. In the long run it may have such effects, but its chief importance to the farmer under existing conditions lies in its relation to the extent of the markets for his products.

For the first time our country is in the position of a creditor nation. As such we can not blindly adhere to trade policies suitable to older and changed conditions. We must make every effort to learn what tariff policy will best serve our purposes, what tariff policies will represent such a nice balance between our interests and those of our national debtors that, while continuing to produce to the limit of our capacity, we may nevertheless absorb enough of the products of our national debtors to enable them to make such payments against principal and interest as are required not only for the maintenance of their economic solvency but to further develop them as customers for our products and our finance.

In view of these considerations, the Commission believes that the time has come to give serious thought to the question of whether, under the prevailing conditions of American industry, agriculture and international trade, the benefits of the protective tariff system are fairly enough distributed as between industry and agriculture to make for a stable bal-

ance in our national economy and protect the long-time interests of the nation. Our tariff policy is an instrument which profoundly affects the utilization of our basic natural resources, and it must be used with intelligence and farsightedness. The Commission recognizes that it would be disastrous to the farmer as well as to industry to attempt any radical, sudden, and general reversal of the protective policy, but it believes that earnest effort may well be made gradually to modify and intelligently to readjust that policy, with due regard for the situation that has been established, so as to equalize more nearly the benefits which that policy may afford to industry and agriculture. Through such modification and readjustment, the Commission believes, the foreign market for our surplus agricultural products might be naturally and normally extended and improved by strengthening the purchasing power of foreign countries, while the domestic market might be increased and protected by tariffs on those agricultural products which it would be to the long-run interests of our country to produce enough to meet domestic needs.

CHAPTER V

STABILIZING AGRICULTURAL INCOME BY GOVERNMENTAL AID

THE farm income can be improved not only by governmental policies which facilitate the sound extension of the market for farm products, but also by any measures which tend to reduce the wide fluctuations in prices as well as the hazards of loss due to changing natural and market conditions. The problem of providing against the losses due to natural hazards as well as those due to price fluctuations within the crop year is essentially a problem of applying proper and economical insurance safeguards in connection with the cooperative organization of farmers, and these special aspects of the general question of stabilizing the farm income will be dealt with in discussing the functions of agricultural cooperatives in Chapter VII. The present discussion is concerned with the problem of stabilizing farm income by reducing the changes in agricultural prices from year to year and over longer periods of time.

As has been indicated in earlier chapters of this report, such changes are by far the most serious source of loss to the farmer and tend to depress the general agricultural income. Changes in the level of prices over a period of years are, of course, common to both agricultural and other industries, and they raise the broad problem of stabilization of the general price level, concerning which something will be said later; but it has already been pointed out that changes in the general price level bear more heavily upon the farmer than they do upon those in other industries, and the question is therefore of more serious importance to the farmer, even though any measure of control which may be possible must necessarily have general application. As regards the fluctuations of prices from year to year, these also affect other producers beside the farmer; but in his case the conditions inherent in

agricultural production make the control of price fluctuations by private individual or organized effort so much more difficult in agriculture than in other fields that the question of stabilization of agricultural prices, like that of stabilizing the general price level, transcends in some degree the sphere of private initiative and becomes a matter of general public concern.

The Stabilization of Farm Prices and Income

The production of agricultural commodities in any given year is determined in large measure by factors over which the farmer has little or no control. Weather conditions, plant diseases and pests, changes in acreage planted and in yields in other countries, all limit the possibility of controlling the price by controlling the acreage planted in a single country, even though adequate organization of producers may exist. However exactly the acreage of any given farm product might be adjusted to yield, on the average, a crop which could be sold at a price to cover the costs of a representative or average producer, it will in most cases yield crops sometimes above and sometimes below that average. These variations in crop yields lead to much greater changes in prices than do variations in the production of most other goods.

If these changes in prices of farm products were in inverse proportion to the yields per acre, the farmer would receive an approximately stable return, since the costs of production are but little greater when the average yield is high than when it is low. Within a certain range of total crop volume, prices do show some tendency to vary roughly in inverse proportion to the size of the crop, but, outside this range, they tend to vary much more sharply than total crop yields. A very large crop will frequently sell for a smaller total sum than a crop of lesser volume, and in some years the diminution of the farmer's income may thus be very serious. In the case of commodities grown all over the world and subject to world market conditions (of which wheat is perhaps the best example), the price received per unit of the crop has little relation to domestic yields per acre. In these crops it sometimes happens that low domestic yields coincide with a large world production and low price,—the worst possible combi-

nation for the domestic farmer. It is probable that the growth of international trade in farm products has, on the whole, diminished rather than increased such fluctuations in farm income, but the considerations just advanced show that they may still be extreme.

These wide fluctuations in prices and income from year to year are the most important factor in making agriculture a highly speculative occupation, and in all speculative activities the average return is certain to be less than in those which are more stable and well controlled. Beside the costly burden imposed by them on the producer, these price changes promote uncertainty on the part of all business using farm commodities as raw materials, thereby discouraging sound initiative and operation in many lines of trade.

The Commission feels very strongly, therefore, that all who are concerned in the improvement of the agricultural income, and in its possible benefits to the business community and the public at large, should give serious consideration to the desirability of devising means by which the fluctuations of agricultural prices from year to year may be mitigated. The farmer is in this matter a victim of circumstances which are largely beyond his control or responsibility and in a certain definite degree against the public interest, so that a measure of governmental effort to aid in protecting that interest may properly be invoked. In considering what measures of this kind may be possible and desirable, however, it is necessary to have clearly in mind the limitations with which any such effort is necessarily confronted.

True price stabilization should be clearly distinguished from the various legislative projects which have been considered in the preceding chapter. These are intended to raise domestic prices rather than to stabilize them, and would set up two sets of prices on the various commodities covered, the higher being paid by the domestic and the lower by the foreign purchaser. Real price stabilization would effect a mitigation in price fluctuations, but this would involve a scaling down of the heights of prices as well as an elimination of their depths. Though this would not make an incompetent producer rich, it would prevent the ruin of reasonably efficient farmers whose production is really needed

and who tend to be replaced by newcomers liable to suffer the same fate.

A certain part of all non-perishable crops is, of course, always carried over into the succeeding year. This tends to reduce price swings, but the market machinery which, in the United States, works fairly well in ironing out fluctuations within a single season, is not so effective in stabilizing prices from year to year.

From the point of view of the consumer of farm products the ideal of price stabilization would be to restrict the movement of prices within a narrow range about a normal level which would induce the planting of just so much acreage as would, *on the average*, yield a supply capable of being sold within a year at the normal price. This price could be rather closely approximated by taking a moving average of the prices received for the crop in question during a period of five or ten years preceding the current season.

But even if such stabilization could be achieved, it might not bring to the producer any approximation to a constant return, owing to the variability in yields from year to year, unless, indeed, each farmer held from one year to another exactly his proportionate share of the carry-over necessary to establish such a stabilized price. From the standpoint of the producer the ideal of stabilization would be to have a price which would vary so as to give a fairly constant net return per acre, or at least a return which, though it might grow, would grow steadily and not spasmodically. As shown in Chapter II, there is a rather surprising correspondence between prices per unit of product and dollar yields per acre, especially in wheat and cotton, but prices have been so unstable in the past that only experience and experiment can tell whether control of fluctuations in prices for farm products would in itself bring stability to farm incomes. It is certain that the stabilization of farm income can not be achieved only by control of prices, but will require some control of acreage as well.

It must be frankly recognized, therefore, that the complete achievement of the ideal of stable prices to the consumer together with that of stable returns to the producer is under present conditions problematic if not impracticable. Aside

from the inherent difficulties of controlling acreage, world wide monopolistic selling agencies might eventually be required to distribute returns to the producer evenly from year to year; but such agencies would imply a degree of international cooperation and a change of governmental policy toward the organization of agriculture and trade which can not yet be contemplated.

Short of such action, however, the Commission believes that by private initiative and governmental aid a great deal can be done to provide reasonable security to the American farmer in at least certain of the more important lines of production. The point at which the possibilities of private action will be exhausted and government aid become necessary, and the degree and kind of governmental assistance that it may be wise to invoke, are matters on which the Commission does not feel it to be safe to pronounce final judgment in advance. Any effort of this kind must necessarily be experimental, for an adequate basis of experience is so far lacking and must be accumulated. As this experience grows through experiment under proper safeguards, it may prove necessary to extend governmental action in ways which prevailing ideas of the proper scope of government do not now sanction and which the Commission can not at this time recommend. On the other hand, it may prove possible to extend the range of private action so far as to make that of government unnecessary. The Commission hopes that this may prove to be true, but it feels that under present conditions the government has a necessary part to play in any such effort.

Various measures have been proposed in recent years whereby agencies would be established to accomplish such stabilization with governmental aid, and these plans have been frequently coupled with other schemes, like those described in the preceding chapter, designed to raise the price level for farm products. Many of these plans would require the government itself to enter directly and actively into the buying of farm products. The Commission can not recommend that such buying be done by a governmental organization until and unless it be conclusively demonstrated by experiment that the result can not be accomplished in any other way, and even then the Commission feels that the evils

that might be entailed would probably outweigh the advantages. Governments are usually inexpert in business, and political meddling could scarcely be avoided, while a precedent would be established which could and probably would be used to further similar claims for governmental action on behalf of other groups.

Of all the proposals which have been offered and which the Commission has examined, it feels that certain features of the program recently put forward as the proposal of the Administration offer the most promising basis for the development of a plan which would merit trial. The Commission does not endorse the so-called Administration plan in its entirety but feels that certain elements in it might be used as a basis for a constructive experiment in the stabilization of agricultural prices with governmental aid. The main features of such an experiment would be as follows:

1. Stabilization requires a body of authoritative, comprehensive, and current information regarding the condition of crops, stocks of farm products, acreage, production prospects, and the market situation, both at home and abroad, as well as some authoritative and responsible agency for making such information effective in guiding farmers and their organizations in their production and marketing programs. Such information can be adequately provided and effectively used only through a governmental agency. The U. S. Department of Agriculture is, of course, now engaged in assembling such information, but experience suggests that, for psychological, political, or other reasons, the Department is not the type of agency best adapted to the effective application of such information to the problem of agricultural stabilization. It lacks not only the requisite contacts and agencies through which such information may be applied, but it lacks also the direct responsibility for seeing that the information is effectively used. In short, the Department of Agriculture cannot properly or adequately function as the kind of General Staff that is needed for the effective organization and stabilization of the agricultural industry.

There should be established, therefore, a Federal Farm Board consisting of a small number of men appointed by the President and paid by the government, to aid in the stabili-

zation of prices and production in agriculture by advising farmers and farm organizations fully and promptly regarding the planning of production and the marketing of crops. It should have the power to make full use of the facilities of the Department of Agriculture for gathering information, and it might also have the power to call upon other agencies at home and abroad for aid in this respect. This Board should be assisted in its work by a number of advisory committees composed of persons adequately representing each important branch of agriculture, who would cooperate with it both in supplying information and advice and in making its influence effective in the production and marketing of crops. Through the appointment of its members and through its advisory committees this Board should be made as directly responsible to farmers and farmers' organizations as possible.

2. With the advice and assistance of the Federal Farm Board, effort should be made to establish stabilization corporations to engage in the buying and selling of farm products for the purpose of stabilizing prices. Such corporations should be established through the cooperation of farm organizations, of private business organizations directly interested in the processing and merchandising of farm products, or other business organizations, and of the government acting through the Federal Farm Board. The capital necessary for the establishment of these corporations should be supplied partly by the farmers' cooperatives, partly by other private business interests, and partly by the Federal government. This would give the government, the farmers, and the general business public an interest in these enterprises through the holding of their capital stock. A majority of the stock, however, should be held by the farm organizations and business interests combined, so that the government at no time holds a controlling interest in the stabilization corporations. The farmer organizations, the other business interests who have made investment in the enterprises, and the government, through representatives of the Federal Farm Board, should be represented in the management of the corporations in proportion to their stock interests. In this way the Federal government would participate in the management of the enterprises as well as lend its aid through the Federal

Farm Board in their effective operation. At the outset the government would stand in similar relation to these corporations as existed initially in the case of the Federal Land Banks, except that here the government would supply only a minority of the capital. Effort should be made gradually to liquidate the government's interest in these enterprises in the same way as its interest in the Federal Land Banks has been reduced. In general, the government would be in a position to exercise such supervision over these corporations as it does over the national banks.

3. The working capital necessary to finance the current operations of these corporations in handling surpluses should not be supplied by the government but should be made available through private banking sources, preferably through the Intermediate Credit System.

A relatively large amount of working capital would be necessary to finance the current operations of these corporations in some instances, and it would appear to be problematical whether such credit would be immediately forthcoming at the outset of these enterprises. On the other hand, the government's financial interest in them as well as its general supervision and participation in their management and the aid it renders them through the Federal Farm Board may be expected to make the credit standing of such corporations considerably better than that of unsupported cooperatives or other marketing organizations. This standing would further be improved if, after a period of experience, the corporations demonstrated their ability to deal with the problem successfully through conservative business policies. It would, moreover, be in the interests of business men to provide not only a share of the initial capital but a part of the working credit because the successful operation of such corporations would tend to prevent sudden curtailment of the buying power of agriculture through unchecked price declines and so would tend to stabilize general business and credit conditions. In part, therefore, the credit provided might be regarded as a contribution to business stability. In the management of these corporations no attempt should be made to earn profits above an amount sufficient to provide for losses and reasonable expenses. While the risk assumed

would be considerable, it must be remembered that part of such losses as might occur would be gains to the farmer in better prices than he could otherwise have obtained, and so would probably not diminish business prosperity in the long run. In any case, if private business and banking interests do not consider it necessary or worth while to aid in agricultural stabilization in this way, their objections to the entrance of government into the banking business, serious as these are, will naturally lose much of their force. The dangers of too great governmental control of such enterprises must be avoided, and these dangers will be diminished only in so far as private business and the farm organizations demonstrate their willingness and ability to make them successful.

4. Cotton, wheat and perhaps corn appear to be the only commodities in which stabilization organizations of this sort could successfully operate, at least at the outset of the experiment. It would obviously not be possible with perishable products which can not be kept for any considerable period, nor with livestock, where the cost of holding for the market is prohibitive. In the case of corn, which is not highly durable, the matter may be of less importance since a comparatively small part of the crop is sold in the general market and the income per acre tends to be fairly stable. Cotton and wheat are the least perishable and the most important crops commercially.

5. As these corporations become strong enough and gain sufficient experience, it may be possible for them to carry the process of price stabilization one step beyond the mere handling of emergency surpluses due to weather conditions, and to attempt the gradual control of production, so far as this can be accomplished, by influencing planting intentions and planting programs. The Federal Farm Board would, of course, be expected to exert in this direction such moral influence as it could acquire, but the ideal of reducing the year to year fluctuations both in price and in dollar income per acre could be most fully approached only if the stabilization corporations were able to exercise a measure of control over the undue expansion or contraction of acreage.

Realizing this fundamental requirement not only for adequate price stabilization but for the sound development of

agriculture as a whole, it is to be hoped that the stabilization corporations may find a safe and practicable way of achieving such control. After they had established their power to handle the surpluses and accumulated sufficient experience to be able to judge with close accuracy as to the probable demand and probable production which a given price would bring forth, it might eventually be possible for these corporations to announce in advance of the planting of crops a price at which they would stand ready, on a specified date after the production of the crops in question, to purchase any surplus which might then be offered. This price could be such as would induce the desired volume and proportion of the crops concerned. If any tendency to overproduction appeared, the stipulated price could be lowered, and if the production proved inadequate, it could be raised. So far as the stipulated price was correctly gauged, and in all cases in which it was less than market conditions for the crop following the announcement would warrant, there would be no deliveries to the corporation. The effect of such guaranty would be to prevent a decline below the stipulated price by more than the cost of carrying the crop. The price, however, might rise to any point above this amount as the result of free market operations. If the farmer could count on a minimum price so established, those who would not produce at the price could withdraw while their capital remained intact rather than be forced out of production through bankruptcy, and a better balance in production would be attained. The prospective price would determine, at least in part, the total acreage planted and the distribution among the several crops. Such action by the stabilization corporations would not be an attempt to fix prices at a level which world conditions of supply and demand would not permanently sustain. Prices would rise and fall as conditions of world demand and supply dictated, and the stipulated price would depend upon those conditions. The aim would be only to reduce price fluctuations by exercising some influence upon production itself.

It is obvious that the difficulties in determining with reasonable accuracy an appropriate price are great. Nevertheless, the delivery of crops to the stabilization corporation would be a warning, and the necessity of making purchases in

specific years would make evident that the stipulated price was too high, presumably because of falling costs of production. In such cases the stipulated price could be reduced and any loss sustained might be recouped in later years by keeping the price for a period of years considerably below the normal level. Though the production of agricultural commodities does not appear to respond readily to price changes, a steadily downward movement of price, such as would be possible under the control of stabilization corporations, would be likely to be more effective in reducing excessive acreage than is the present condition of spasmodic sharp drops with succeeding partial, and in some years complete, recovery.

The chance of loss is, of course, much greater than if operations are confined merely to handling surpluses in emergency cases, and the risk would increase as the purchase price stipulated approached more nearly the probable market price. It would seem advisable, therefore, to name a price considerably below the probable market level until experience has been accumulated and until it has proved possible to build up a reserve. Such a price would, in any case, be an assurance to the reasonably efficient farmer that he would not be ruined by an exceptionally large world production of a given crop, while it would greatly reduce the possibility of loss to the buying organization. The result of such operations would be to reduce the fluctuations in price due to variations in crop yields consequent upon changes in weather conditions and due to uncontrolled variations in acreage. The sale of the products so purchased would lower the peaks of prices just as the offer to purchase them would prevent prices from falling to ruinous depths. In years of large yield due to weather conditions it would then be practicable for farmers to carry part of their own crops if they so desired, because they would be safeguarded against falling prices resulting from uncontrolled changes in acreage. If proper precautions were taken to secure safe storage it should be possible to borrow against the crops up to an amount not far short of the stipulated purchase price; the non-perishable crops would then be good collateral for a loan, since the lender would know that he was protected against a sudden fall

in price. An approach to stabilization of the farmer's income as well as of the price to the consumer would thus be possible.

The Commission does not feel that the stabilization corporations could wisely undertake such action at the outset of their establishment, and perhaps not for a long period of time. If these corporations for the handling of emergency surpluses are organized and successful, however, they may find it possible gradually and tentatively to experiment with such action.

Stabilization of the General Price Level

The success of any such effort to stabilize farm income by reducing the fluctuations in prices and production from year to year depends in large measure on the stability of the general price level. Wide changes in the general level of prices over a period of years, due to changes in the value of money, would make any effort to steady farm prices from year to year ruinously costly if not practically impossible, for farm prices are usually more seriously affected by general price changes than are other goods and services. Moreover, the alteration of real land values, interest rates, and wages which accompanies changes in the value of money seriously affects the economic position of agriculture as a whole.

The problem of achieving greater stability in the general price level than has existed in the past is, therefore, not only one of the most important in our whole economic life, but of special moment to agriculture. The extent to which governmental action in this matter is proper and desirable is one among the many unanswered questions in this field where knowledge is still uncertain and experience limited, but it is clear that every earnest and intelligent effort to increase the stability of prices merits the careful consideration of all who are interested in agricultural improvement and business security. It is doubtful whether any monetary or credit system can be devised which would be able to function through such a world wide economic upheaval as accompanied the World War without ruinous disturbances of prices, but such a change of the price level as occurred between 1896 and 1914 is a fair challenge to the economists and business men of the

world. Since 1921 our country has enjoyed comparative stability in the general price level which has played an important part in preserving a high degree of prosperity. This stability seems to have been the result of many forces. Higher efficiency of production has offset high wages; swelling gold reserves of our banks have weakened the effect of the country's increased gold supply; foreign loans have permitted a continued excess of exports over imports; and heavy taxation has aided the process of deflating the structure of war finance. Banking policy and credit control have exerted their influence in the direction of stability, and it is essential that they should always do so. But when powerful economic forces work adversely to stability, the influence of banking and credit control quickly finds its limitations. The general price level is a world phenomenon, and international cooperation seems necessary if mankind is to be spared the pangs and wastes of excessive and avoidable fluctuations. Every effort in this direction should be encouraged.

CHAPTER VI

INDIVIDUAL SELF-HELP

IN VIEW of the difficulties which stand in the way of such governmental action, designed to improve the agricultural income by raising or stabilizing the prices of farm products and extending the foreign market for them, it is evident that the main means of improving the economic position of the farmer must be sought in measures which reduce his costs of production. These measures fall broadly into three general groups:

First and foremost, attention must be given to the ways in which the individual farmer may himself lower costs of production, and these are the subject of the present chapter. Secondly, attention must be turned to ways in which farmers, through their own organizations and with the cooperation of other private agencies, may develop more effective methods of production and marketing of their crops. Possibilities of such action are involved in the farmers' cooperatives, in the development of national policies for the more effective utilization of land, in the development of better facilities for agricultural credit, in the improvement of transportation and distribution of agricultural products, and in the extension of agricultural education and research. Finally, in all of these directions as well as in the special problem of farm taxation there is a definite part for the local, state, and Federal governments to play.

Limitations of Self-Help

The Commission feels that great emphasis should be placed upon the things which the individual farmer himself can do to lower his costs of production, although the limitations of such efforts should be clearly realized. The possibilities of self-help are large and fundamental, but they by no means touch the whole range of factors that affect the economic position of agriculture. The individual farmer

has practically no control over the prices of the goods he sells or buys. He produces so small a share of the total output of the great staple products of agriculture that he cannot appreciably affect the market for them. He cannot create markets by individual effort; high-pressure sales methods so successfully applicable in other industry and trade are largely not adapted to agriculture, and the inelasticity of demand for most farm products would in any case make such methods useless. The development of larger markets for farm products depends in part upon cooperative efforts of farmers and in part upon the wise readjustment of such legislative policies as the tariff. So far as foodstuffs are concerned, there is little opportunity to increase per capita consumption in this country. The market for certain specialties may indeed be extended, but this normally involves a decline in demand for staple products. The demand for industrial raw materials of agricultural origin may certainly be increased, but this depends, of course, upon research necessary to develop new uses for them and upon the cooperation of industry in making such demand effective.

The one recourse for the individual farmer, therefore, is to cut his costs through the most efficient operation and management of his farm enterprise. Since, however, the reduction of costs commonly involves an increase in the volume of output, the essential question for the individual farmer is whether he does not stand to lose as much in lower prices as he gains in lower costs. The ultimate aim in efficient management of farm enterprises must, of course, be not merely to increase volume of output but to increase production in relation to the labor and capital employed in it. The farmer who produces more for a given amount of labor and capital may for a time be no better off than he was before, because of the lower price which the larger product may bring, but the farmer who does not reduce costs will certainly be ruined, and the elimination of the latter type of farmer will ultimately work to the advantage of his more energetic fellows. Thus it remains true that only those farmers who cut their costs and improve their efficiency can hope to attain a permanent prosperity in agriculture, and it behooves every farmer to seek the means by which this

may most effectively be done. Successful farmers and others who have made long study of the productive problems of agriculture are the best authorities in this field, and the Commission cannot presume to any special competence. The following general suggestions may be ventured, however, as to the direction which this attempt should take.

General Suggestions on Farming Methods

(1) Yields per acre can be greatly increased on many farms without a proportionate increase in cost. The long-time trend in our agriculture is toward a more intensive cultivation, and though present conditions favor a temporary reversal of that tendency as an adjustment to changes in the relation between the value of land and that of labor, great numbers of farmers fail to get anything like as large crops per acre as would prove profitable. The optimum yield per acre is, at the moment, lower than it was before the fall in the prices of farm products, but comparatively few farms are securing that optimum. The desirable degree of extensive cultivation depends upon the prices of land, labor and materials and varies with changes in the relation between the prices of these factors, but too many farmers complacently regard low yields per acre, attributable to their own inefficiency, as a good type of extensive farming. Production methods on many farms are far below the best technical as well as the best economic standards.

(2) A higher yield per man engaged must be sought. The rise in the general rate of wages means that land must, for the present, be handled with less labor than was formerly profitable. In cases where, in the past, production has been carried on at a high level of efficiency, this may and probably will mean lower yields per acre. In general it will not pay to restrict operations to as small an area as would formerly have been profitable, though it will, of course, still pay to utilize labor as fully as possible throughout the year. A farm size considerably larger than was most profitable in the past will now prove economic.

(3) Much land formerly in crops should now be put in grass or reforested. This applies to individual farms as well as to whole districts. The movement of prices has made

parts of many farms and all of some farms submarginal, that is, beyond the limit of economic cultivation.

(4) Where yields per man can be increased by expenditures for relatively cheap materials, this should prove profitable. Commercial fertilizer is now lower in price, relative to commodities in general, than are the products of the farm, and should therefore be an economic outlay.

(5) Power farming promises the best results, whether the power be mechanical or animal. As far as possible it should be accompanied by utilization of the most modern machinery that is available. The discussion in Chapter III has shown how significant agricultural machinery promises to be in the future. The individual farmer has it to a certain extent in his hands whether he will reap many benefits from this development or not. In this connection attention should be directed to the need for proper care of farm machinery and upkeep of farm improvements in general. During the investigations the attention of the Commission was often directed to the apparent neglect of the machinery on numerous farms. Not every farmer can be expected to be a perfect mechanic, but all should deal with their implements and the improvements on their farm in such a manner that no waste through too rapid depreciation arises.

(6) The preceding paragraphs make it clear that no general rule can be laid down as regards intensive or extensive cultivation. It is clear that, at the moment, labor should be economized as much as possible and land used in a more extensive way. Capital occupies an intermediate ground. Capital expenditures for such equipment as saves a great deal of labor may be profitable, even if the price of that equipment is high relative to the price of farm products. Capital expenditures to increase yields per acre may now be profitable where they would not formerly have so proven, if the agent used to increase the yields is low in price relative to the prices obtained for farm products.

(7) Diversification and rotation of crops are fundamental. In order to get the maximum returns from land it is necessary that an intelligent, scientific method of crop diversification and rotation be followed. It is a well-known fact that where land is continuously used for the same kind of crop it rapidly loses

its productivity and can be restored only with great difficulty. Diversification, moreover, tends to lessen devastation by the enemies of any one crop and provides employment for the farmer for a much larger portion of the year than is possible in single crop farming. All farmers work long hours at certain periods of the year, but not all, by any means, work productively the whole year through. The conditions under which agriculture is carried on make this inherently difficult, but diversification is a partial solution of the problem of full time employment on the farm, and it is for this reason that specialization can not profitably be carried as far in agriculture as in manufacturing. Diversification, further, is a form of insurance not only against hazards of nature but also against those of price, and in this way serves a most important function.

In addition to such diversification as is above outlined it is advisable, under existing conditions at any rate, for all farmers who can do so, to produce the bulk of their own food and feed crops. When prices of agricultural commodities on the farm bear a higher ratio to the prices of these commodities at retail than now prevails, it might pay the farmer to concentrate entirely upon his money crop and buy his own supplies of food and feed. But this is seldom true at present. The cost of middlemen's services is now so great relative to the price received by the producer that it will not often pay the latter to buy what, in the ordinary course of his farming operations, he could produce for his own use. The necessity for credit is in part obviated by such production for use on the farm, and if diversification is carried somewhat beyond this point, the farmer may obtain cash from the sale of his minor products while his major crop is maturing. This strengthens his credit and saves the payment of interest.

Diversification, of course, should not be aimless nor overdone. The best practice, wherever natural and market conditions make it possible, is a compromise between a wide diversification and the concentration which is so typical of modern economic life. Relatively few products should be selected for production by any one farmer. This degree of diversification does not preclude the special knowledge and

skill which come from specialization, while it lessens the dangers of specialization. The benefits of such diversification have been clearly proven in territories which up to the last few years have been one-crop districts. These districts suffered most severely in the post-war deflation but are now making their way out through diversification.

(8) Not only is it important that the farmer be employed for as much of the year as possible, but the same is true of the land. Methods of artificial drying of field crops are now being developed which make it possible to cut the crop when immature. Not only does this yield a much larger return of food values per crop as compared with what can be obtained from ripened feeds but it permits the use of the same land to secure two or more crops per season. This matter has been more fully treated in Chapter III.

By such action as is indicated in the foregoing the individual farmer can do much to help himself. Yet it must be recognized that every one of these suggestions carries a danger. Some of them will tend to increase the output of a given number of farms and others the output of a given number of farmers. All of them, if generally applied, will require an elimination of men from farming if prices are not to be driven downward still further. The farmer who improves his method of production can but hope that prices will not fall so far as to wipe out the saving in cost effected by the improvement. Such improvements are likely to proceed gradually, so that in making them the progressive farmer will not fail to improve his lot. Those who are in the van will make good profits immediately, and all who keep above the average can hope for a fair return at no very distant date. But the very fact that improvements of this sort must proceed gradually, if they are not in the first instance to prove a boomerang, diminishes their effectiveness as an *immediate* aid to agriculture as a whole. The problem of the relation between farm income and the cost of production must, therefore, be approached in more general ways, such as are involved in the tariff and the stabilization of agricultural income already discussed, and in cooperation, wiser land utilization policies, taxation, agricultural credit, transportation and distribution, education and research, dealt with in succeeding chapters.

CHAPTER VII

COOPERATION

THE success of farmers in meeting their own difficulties depends in the main upon their organized cooperative effort. Though many cooperative associations of farmers in this country have been unsuccessful, it is generally admitted that where they have been competently managed and have built up reserves against the inevitable rainy day, they have proved their worth and are capable of conferring much greater benefits on agriculture than have yet been achieved. Their full usefulness, however, depends upon building up from the bottom, and this is necessarily a slow process in a country such as ours, where a relatively extensive type of agriculture has always prevailed, where the population is mobile, and farms are far apart.

The obstacles which cooperation of this sort encounters have led, of recent years, to an overemphasis of the marketing functions of cooperatives, and to an attempt to build from the top down. Large numbers of producers have bound themselves by contract to deliver their crops to the association so formed, and with this as a start a somewhat more thoroughgoing type of cooperation has usually been sought. Marketing is undoubtedly a field in which cooperation can be of great service to farmers and in many cases it may be necessary to begin in the manner just described, but structures thus set up, without a firm foundation in local cooperation, are subject to great vicissitudes and are unlikely to be successful in the long run. Cooperation in production, with cooperative selling as an outgrowth, holds much greater promise for the farmer. Though such cooperation is already in operation to a considerable degree, the field is by no means sufficiently exploited and should receive greater attention. Cooperation among farmers in the production process will give many advantages similar

to those obtained in manufacturing industry through large scale production. Such cooperation will greatly facilitate the marketing of farm products, since many marketing problems are in the last analysis founded on production and can be solved only in the producing process. The problems of standardization and grading, for instance, which are fundamental for marketing, must in many cases be attacked while the crops are in process of production. The benefits to be derived in this way may, however, be greatly augmented by other services of cooperatives which will not only enable the producer to obtain a better or more stable price for his products but will reduce his costs.

Cooperation in the Production Process

Cooperation should start with the purchase of goods needed for agricultural production. Fertilizer, seed, feed, machinery, feeder cattle, feeder lambs, and many other commodities can often be bought cooperatively better than through the private trade. The cooperative method concentrates the buying power of many farmers into a single channel and makes possible considerable savings through wholesale buying and shipment in carload lots. It also tends to eliminate unnecessary services, such as advertising, storage, and credit extension.

More important perhaps are cooperative activities in the field of securing tested seed. The value to agriculture of obtaining seed the origin of which is known, which is adapted to the particular region of use, and is inherently able to produce large yields, is inestimable. Cooperative action in securing the seed supply often gives a better guarantee than purchase from private seed traders, though in many cases the private trade serves the farmer well. The rapid development of cooperative crop improvement and seed service associations in various parts of the country is, therefore, highly to be commended. The same holds true for the activities of the Farm Bureaus in the distribution of good seed among their members.

Cooperation is further of great value in the raising of livestock. In Denmark, cooperatives were able to effect

within a few decades a surprising improvement in livestock on the average farm, although the Danish farmers were extremely poor when they began to specialize in livestock production.[1] There seems to be no reason why our farmers could not show an equal improvement. The value of cow testing associations, which are already fairly common in the United States, especially in the dairy districts of the Northwest, can be seen from the fact that the average cow in the United States produces about 160 pounds of butter-fat annually while those in the cow testing associations produce about 250 pounds.[2] In poultry production particularly, but in case of other livestock as well, and in certain crops such as cotton, it is desirable for a given district to concentrate on a single variety to prevent mongrelization. This can probably be best done through cooperative societies.

In the utilization of machinery, cooperation is likely to become more and more desirable. The joint ownership of expensive machinery is practicable and is widely used in Europe, while the American farmer, who in general employs machinery to a much greater extent than the European, cooperates in this matter with his neighbors only to a limited extent. The result is that on most American farms machines are to be found which are used for only a few days each year and which for the rest of the time are a dead investment. As more and more expensive machinery comes to be used in farming the advantages of cooperation will increase.

An interesting development, which is perhaps capable of great expansion and usefulness, is harvesting by cooperative associations. The system is now prevalent in the California fruit industry. As care in picking the fruit is of the utmost importance in preventing deterioration, most California fruit cooperatives now harvest the crops of their members by trained association crews which work under a foreman and are, in addition, subject to control by inspectors. The method takes the total harvesting process out of the hands of the grower. The crews are paid on a "quantity-quality" basis;

[1] C. L. Christensen, "Agricultural Cooperation in Denmark," U. S. Department of Agriculture, Bulletin No. 1266.

[2] Proceedings of the World Dairy Congress, 1923, Vol. II, p. 1357.

that is to say, their pay depends not only on the volume which they harvest but also on the degree of care which they exercise while performing the work. These crews are said to work with considerably greater efficiency than the hired laborers of an individual grower. In addition, the method facilitates the assembling of the harvest labor.

The achievements of certain cooperative societies in the grading of farm products and in standardization of grade and pack are well known. "While grade standards have been developed by government agencies, much of the recent progress in this phase of marketing can be traced to the activities of cooperative associations."[1] The "Land O'Lakes Creameries, Inc.," of Minnesota, the central organization for a large number of cooperative creameries in that and neighboring states, has been able to secure prices consistently above those current for non-standardized products through its ability to turn out a uniform product of high quality which it has educated the market to use. In field and fruit crops, fertilizing, spraying, thinning and many other production activities greatly affect the grade of a crop and are therefore an open field for organized cooperative activities. Here again the California fruit cooperatives have been prominent. Of special interest are the large, well-equipped packing houses, with elaborate and expensive machinery for cleaning, sorting and sizing the fruit, which have been erected by the local cooperatives in that state. Such packing houses are far less common in other fruit districts of the country and in the vegetable industry, but have so many advantages that their erection is in many cases desirable. They protect the products, encourage the use of labor saving machinery and greatly facilitate the packing, inspecting and shipping of the output.

Grading is also of some importance as a surplus control measure. At times of a temporary oversupply, cooperative organizations can sort more closely, eliminate the more undesirable grades, and prevent the demoralization of the whole market by an excess supply of culls. These culls should, wherever possible, be utilized through by-product plants,

[1] From a speech by W. M. Jardine, Secretary of Agriculture, before the American Institute of Cooperation, Chicago, 1927.

which can be a considerable factor in stabilizing the market. The lemon and orange products plants of the fruit cooperatives and the various cooperative undertakings for the production of condensed milk, powdered milk, powdered buttermilk or similar products are suggestive of what can be accomplished along these lines.

Cooperatives can render great service by taking the primary processing of farm products out of the hands of individual farmers. Processing, which usually requires expensive machinery and technical skill, can not well be done on the farm. Many of the cooperatives which have devoted themselves to this field have an admirable record of achievement, but the possibilities here have been only very partially realized.

Cooperatives can do much in providing credit for their members at lower rates than are now prevalent. The opportunities for provision of credit will be discussed in Chapter X.

A further great field for cooperative action is insurance. The U. S. Department of Agriculture recently announced that there are in the United States 1,950 farmers' mutual fire insurance companies, carrying risks that total approximately $10,000,000,000. There are, in addition, 40 cooperative wind-storm insurance, 30 hail insurance and 25 livestock insurance associations.[1] Of late, crop calamity insurance, which insures crops against all hazards except personal negligence on the part of the farmer himself, is developing, especially in the fruit and vegetable industries. In this field farmers' cooperatives can be of immense service, for it is only by cooperative action that the cost can be kept at a low figure and the administrative difficulties incident to general calamity insurance solved.

Protection against specific natural hazards presents no great difficulties, but general calamity insurance is still in the experimental stage. Attempts have been made on several occasions by private insurance companies to furnish this type of insurance, but the companies engaged therein have lost money, and have ceased to write this form of policy on the major crops, though one company, at least, is feeling

[1] *New York Times*, June 20, 1927.

its way into the field through a slow expansion of its activities in the minor crops, especially fruits and vegetables.

The experience so far gathered goes to show that the insurance contract for general calamity insurance must be so drawn as to preserve an identity of interest between insurer and insured, and this means that the contract between the two parties must be for an amount less than the actual monetary costs of production. One authority on this subject has said: "The moral hazard is one of the greatest problems in practically all forms of insurance and it offers peculiar dangers in connection with the insurance of crops. This is true not because farmers are less honest than other classes of men, but because of the peculiar nature of the property dealt with in crop insurance. Unlike the insurance of buildings or other objects which are already in existence when the insurance is written, crop insurance covers objects which must be developed into things of value under the care of the insured. If a dishonest and indolent grower succeeds in getting insurance up to or near the full anticipated yield, there is danger that he may wilfully neglect his crop and rely upon the insurance organization instead of upon his yield for the returns he expects. There is also the possibility of concealing or fraudulently reporting his actual yield. Unless the insurance organization has the general moral support of the community in which it operates, it will be difficult indeed for such an organization to guard itself against fraudulent claims, every one of which, if granted, will tend toward higher insurance costs in the future than would otherwise obtain, or be justified."[1] Keeping the amount of the insurance below the actual production cost of the farmer is also prescribed by the necessity of holding the premiums to a low figure. The risk is multiplied many times as the insurance approximates the normal return per acre. "To insure the corn fields in a given locality at $24.00 an acre, obviously involves not only twice but many times the risk involved in insuring the same fields at $12.00 an acre. From the farmer's standpoint the chance of collecting all or a part of the second $12.00 an acre would be several times the probability of col-

[1] V. N. Valgren, "Insurance and the Farm Hazard," *Journal of Land and Public Utility Economics*, April, 1925, p. 189 *et seq.*

lecting any part of the first $12.00."[1] The experience of the companies writing general crop insurance has shown that a policy which proposes to pay back to the farmer the full cost of production cannot safely be offered.[2] What is needed, however, is a policy which will prevent a crippling loss. The farmer can carry losses of less than the first magnitude better than most business men, and it would not pay him to insure against such losses. With regard to major disasters he must bear part of the burden, but it would seem possible to provide a policy which would limit this loss to not much more than the labor of the year.

The risk of crop disaster is much greater in some sections than in others and premiums should, of course, correspond to the hazard involved. Otherwise there would be a tendency artificially to stimulate farming in the districts most subject to crop failures.

The cost of solicitation would make for prohibitively high premiums if the insurance companies were forced to develop the business on an individual basis. It would seem that the business must be provided in blocks, and it is here that the opportunity for cooperative action arises. If cooperative organizations, through agricultural credit corporations, develop the supply of production credit to members,[3] general crop insurance should prove feasible and of great benefit to all concerned. The credit corporations would thereby make their loans secure, while the cooperatives could deliver in one operation a sizable volume of business to the insurance companies, and, with an eye on lower premiums, could well afford to relieve the underwriting companies of a large part of the administrative and supervisory burden, and could reduce malingering to negligible proportions. The provision of services of this sort to their members, services from the benefits of which those outside the group are excluded, will be found the surest means of retaining the loyalty of members and of establishing cooperatives on unassailable foundations.

[1] V. N. Valgren: "Crop Insurance," U. S. Department of Agriculture, Bulletin No. 1043.

[2] Testimony of R. M. Bissell, President of Hartford Fire Insurance Company; Hearings of Select Committee of U. S. Senate in an Investigation of Crop Insurance pursuant to S. Res. 341 and S. Res. 413; 67th Congress, 4th Session, Part I, p. 39.

[3] See Chapter X.

Livestock insurance offers fewer difficulties than are found in the case of crops but it has been developed to a comparatively slight degree in this country. Here, as in crop insurance, effective results can apparently be achieved if premiums are reduced through better organization. The facilities exist and, according to the U. S. Department of Agriculture,[1] there has been an increasing demand for insurance covering pure bred livestock. It would seem that this branch of insurance could be greatly expanded if the problem were energetically attacked. Disease and severe weather conditions frequently cause ruinous losses to producers of livestock and there is no telling where they will strike. If the coverage per animal is kept low enough to prevent carelessness, it should be possible to offer livestock insurance at rates which would prove attractive to all conservative livestock producers.

The wider the distribution of risk the lower the rates could, of course, be made. It is probable that both in livestock and in crop insurance the present premiums are high because the volume of business is small and the volume of business is small because the premiums are high. It has been suggested that since pioneering work in these fields is expensive, and since mistakes are inevitable, a number of private insurance companies should join hands in starting the work over a widely scattered territory, with a pooling of profits and losses.[2] If such cooperation should run foul of certain anti-trust laws, a relaxation of their provisions to permit such action seems advisable.

Cooperation in Marketing

The foregoing outline will have indicated in how many respects cooperation can be of assistance to agriculture in the production process. It is, however, of great value for the marketing of farm products also. Wherever a concentration of selling agencies can improve the quality or vendibility of a product, or can distribute it more nearly in correspondence with the existing demand, or can eliminate waste in the marketing process, cooperative selling associations offer opportunities of great service to farmers as well as to consumers.

[1] *Yearbook*, 1924, p. 245. [2] Testimony of R. M. Bissell, *op. cit.*, p. 45.

These conditions are fulfilled particularly in the marketing of perishable commodities. Many fruit, vegetable, and dairy cooperatives have, therefore, been quite successful, and in other lines, as for instance in tobacco, cooperative marketing has been of substantial value.

It seems that the great staples, wheat and cotton, offer the least promising prospects for cooperative marketing. Such advantages are not completely absent, for in wheat and cotton local cooperatives can perform a great service by gathering the production of the numerous farmers of a district into one channel and moving it in bulk to the next stage in distribution. Organization of these local wheat and cotton cooperatives along regional and national lines is also generally desirable. But this Commission feels it necessary to caution against too rapid development of such regional and national organization of wheat and cotton cooperatives, since the advantages to be gained probably are not so great as is generally assumed and these advantages are in part offset by certain dangers.

In contrast to the marketing of many perishable commodities, the existing marketing machinery in the great staples, wheat and cotton, works very efficiently. All the great trading centers of the world are organized into exchanges which are in constant telegraphic contact with each other, while future contracts tend to make prices at the time of greatest scarcity only enough higher than harvest-time prices to cover carrying charges. Under these circumstances and in view of the non-perishable character of the two commodities, competition among the innumerable traders and speculators all over the world is likely to work so effectively as to eliminate any avoidable waste in the distribution process. In a previous chapter of this report[1] it was indicated that the speculative activities on the exchanges, though subject to abuse, are yet in general in harmony with the interest of the farmer as well as the consumer since they tend to prevent violent fluctuations of the price.

It is not likely, therefore, that great national cooperative marketing associations could undertake the distribution of wheat and cotton more cheaply than the present marketing

[1] See Chapter II.

machinery. The cooperatives would undoubtedly save numerous commissions of middlemen and other expenses connected with the present methods, but instead of this they would have to carry an extremely large bureaucratic machinery in their own administration which would hardly be more economical than the present system. In fact, the experience of the Canadian wheat pool, which at present handles about half the Canadian wheat crop, has shown that it can not operate as cheaply as the most efficient grain merchants who survive its competition.[1] Nevertheless, the fact that this pool has operated successfully and has developed so rapidly, is proof that cooperative associations on a national scale are possible also in wheat. But the advantages to be gained are small, while innumerable difficulties and dangers would be encountered so that slow and careful action seems advisable.

The wide-spread belief among farmers that a large wheat or cotton cooperative would enable them to hold their products for better prices at the end of the crop year is probably erroneous. Studies have shown that the well-developed speculative machinery on the exchanges almost always prevents the average difference in prices between seasons from being much more than enough to cover carrying charges for interest, storage, shrinkage, insurance.[2] An analysis of the monthly prices of wheat, corn, oats and cotton from 1903 to 1912 shows that in this period the farmer could have secured a net profit from holding his wheat only twenty-three months out of the 110; in the case of corn he could have secured a net profit in no month out of the 110; in the case of oats he could have secured a net profit fifty-one months out of the 110; and in the case of cotton there was no month in which he could have secured a net profit from holding. These findings were in general confirmed by studies made by the Minneapolis Chamber of Commerce.

Cooperative selling associations are under a further temptation to seek, through control of supply, an increase in the

[1] See Food Research Institute, *Wheat Studies*, Vol. III, No. 2, p. 123, Dec., 1926.

[2] B. M. Anderson in *Chase Economic Bulletin;* Chase National Bank, Vol. III, No. 2, pp. 25–27, and *Proceedings of New York Academy of Political Science*, January, 1923, p. 121.

price at which they dispose of their product. The individual farmer cannot afford to produce below capacity while his competitors flood the market, but if, by agreement, they should all keep their production down, the price might rise far enough to bring an increase in net return. Such action, obviously, would not be in harmony with the public interests. If production is excessive, the way to curtail it is by a reduction in the number of producing units and not in the output per worker. If there is relative overproduction of a given crop, it is, of course, sound policy to reduce the crop, whether by cooperation or otherwise, and to supplant it with something else. But for each farmer to reduce his total output would be clearly uneconomic for the nation as a whole. If agriculture is to be protected against loss from improvements in efficiency—and general measures should be taken toward this end—the idea of gain through deliberate restriction of output per man engaged must be abandoned. For products such as fresh milk, which cannot be marketed over a very wide area and where, consequently, the producers for any given market are in fairly close contact, an attempt at monopoly might succeed, but for crops subject to world conditions and produced for a central market by great numbers of farmers, the chance is negligible. It is to be hoped that the cooperative movement will not be diverted into barren or antisocial efforts of this nature.

There is in this matter a clear, but easily transgressed, line of division between sound and unsound practice. Control of production in the sense of securing a proper balance in the production of the various agricultural commodities is entirely commendable. But control which aims at reducing the supply by restricting the total output per farmer is to be condemned. There is an equally great difference between orderly marketing and a speculative holding for better prices, though there seems to be some disposition on the part of the protagonists of cooperation to confuse the two things.

The actual or potential accomplishments of cooperative selling should not in any way be disparaged. Certain cotton cooperatives, for instance, are doing good work in making production credits available to their members, and in thus breaking the domination of the money lender over the

marketing process, a domination which has worked strongly to the disadvantage of the grower and has been a powerful factor in the persistence of one-crop farming in the South. But in the actual sale of products like wheat and cotton, once the primary markets have been reached, the best that the cooperatives can hope to do through "orderly marketing" is to secure for their members the average price for the year minus carrying charges. This will not infrequently be less than could be obtained by marketing the crop immediately on delivery.

Cooperative selling associations hastily constructed are in constant danger of losing their members. Non-members secure as good prices as the cooperatives themselves, while the latter bear all the costs. There is thus a persistent temptation to desert the organization. This is increased if the cooperative brings pressure on its members to restrict production. The strength of selling associations must lie in providing advantages for their members from which outsiders are excluded. These advantages can be obtained only by technical improvements in marketing, not by the exertion of monopolistic power, could that be attained, nor by attempting to beat the market.

CHAPTER VIII

UTILIZATION OF THE LAND

AS THE land resources of the country can produce in excess of the present demand for agricultural products and as very great variations in the land exist, it is clear that only the best lands should be used for farming. Unfortunately, the present utilization of land by no means secures this result. Tens of thousands of farmers work on land which is much better fitted for forest or for recreational purposes than for the growing of field crops, while in many parts of the country millions of acres of good farm land are lying idle. This is wasteful from the point of view of the farmer, but it is of much less importance than the waste involved in the persistent attrition of our natural resources which is now going on.

A balanced agricultural production, the highest efficiency of the agricultural industry, sustained prosperity for the farmer, and the permanent interest of the nation in the preservation of its natural resources can be attained only through a carefully planned policy for the utilization of the land. A necessary prerequisite to the introduction of such a land policy is the determination on a national scale of the present and future requirements of our population for the several types of land.

Crop Land

The land area of the United States comprises approximately 1,903,000,000 acres. Although a large part of this area is deficient in rainfall, the humid parts of the country are capable of maintaining a greatly increased population. The present area in crops is about 365,000,000 acres. This can be very considerably expanded, when the need arises, but only at the expense of pasturage and forest. Our habit of living on our capital of forest and the consequent tendency

to cut timber in such a way as to leave the land better adapted to tillage than to regrowth of trees, together with land policies that favored settlement, have tended to bring into cultivation so large a proportion of our lands as to lead to a fairly constant tendency to depress the price of farm products and at the same time to reduce the supply of timber to a point much below what will apparently be necessary to supply our future lumber requirements. Since our present area in crops produces more than the markets will absorb at profitable prices, the present task is to reduce crop acreage in favor of pasture as well as forests.

Unfortunately, such a transition takes place very slowly. To turn crop land into pasture or forests amounts, in most cases, virtually to the scrapping of farmsteads. The owner of a farm is always reluctant to take such a step and the difficulties are further increased by the fact that local business interests are under a strong temptation to expand the agricultural industry in their district, or at least to keep the acreage under the plow at the established level. A partial solution of the problem of reduction in crop acreage can probably be achieved by more extensive cultivation. This would reduce the surplus of agricultural production without seriously cutting down the area in crops.

Pasture

The estimated decline in pasture land per decade since 1890 has been as follows:[1]

1890–1899	38,000,000 acres
1900–1909	11,000,000 "
1910–1919	32,000,000 "
Total	81,000,000 acres

In the same period crop land increased, on the average, by about 4,500,000 acres a year, two-thirds of which came from pasture and one-third from forest.

Much pasture land was put under the plow in the war period. A good part of this has already been abandoned, but still more should revert to grazing. We are now on an import basis for the type of meat animals and meats to the

[1] U. S. Department of Agriculture, *Yearbook*, 1923, p. 438.

production of which grazing land is adapted. As our population grows, our domestic production of these products can increase greatly before the export stage will be reached, if that again occurs. Grazing has the further advantage of providing a practically perfect protection against all forms of erosion and of conserving the fertility of the land.

While there are large areas especially adapted to grazing, almost every farm has some land which it would be well permanently to keep in grass. More attention should, therefore, be paid to the possibilities of improved pasture. The American farmer, for one reason or another, has never obtained anything like the maximum utility from this source. Our permanent pasture "is relegated largely to land too poor or too rough to till, neglected commonly by the farmer, often abused by the grazier, and ignored by most investigators."[1] The carrying capacity of our pastures is less than half that of the countries of Western Europe, and if our pastures were given proper attention, it would seem that the cost of producing meat animals could be greatly reduced. Studies by the U. S. Department of Agriculture on dairy farms in seven different parts of the United States (outside of the range region) in the period 1915 to 1920, revealed that pasturage furnished very nearly one-third the total sustenance for the cows, but that the cost of this pasture was only one-seventh of the total feed cost.[2] It seems, therefore, that the suggestion[3] to make better pastures a keynote in the promotion of American agricultural progress is worthy of the most serious consideration.

Forest

In many cases, especially of cutover lands, reforestation offers the only possibility of profitable employment of the land. The proper treatment of marginal lands can be developed only in accordance with the comprehensive program of land utilization to which attention will presently be directed. It is scarcely questionable that where, over considerable areas, land has reverted to the government

[1] U. S. Department of Agriculture, *Yearbook*, 1923, p. 366.
[2] *Ibid.*, p. 411.
[3] *Ibid.*, p. 366.

from failure of its occupants to meet their tax bills, it would be better policy for the government to hold this land rather than seek to unload it on new settlers who can be expected only to repeat the experience of their predecessors. Land which is submarginal for private use, even for forests, may be supermarginal for public use. In any case land which cannot be made to produce its taxes should be part of the public domain.

It is certain that, if existing tendencies continue, our supply of timber will presently be so greatly short of meeting even a volume of consumption no greater than the present, that prices will rise to an inordinate degree. Adequate imports can be obtained, if at all, only at a very greatly increased cost. It is true that lumber now frequently fails to sell for prices which fully cover costs of production, but this is due to a present overproduction which cannot permanently be sustained, since we are cutting deeply into our capital of virgin forest every year, and no great quantity remains. The reproductive capacity of the forest is usually destroyed by the cutting methods now used. If conservative methods were required they would cost more in the present, but far less in the long run, and they would operate to check the present recurring tendency toward overcutting and, consequently, unduly low prices. Timber seems to be the one agricultural staple of which we are in no danger of having too large a supply, though it is quite possible to put too much lumber on the market at any given time. But timber is a crop which can be stored indefinitely in standing form, to the social, if not always to the individual owner's advantage.

On the 264,000,000 acres of growing timber in the United States the annual rate of growth per acre is estimated at 24 cubic feet per year, a rate only about half that which prevails in well-cared-for forests of certain European countries.[1] This gives a total annual growth of 6,336,000,000 cubic feet. We consume 24,785,000,000 cubic feet of timber per year. Of our consumption, however, 2,380,000,000 cubic feet represent estimated loss from fire, insects, diseases, and windfall. Assuming that in the next few decades we shall be

[1] U. S. Department of Agriculture, *Yearbook*, 1923, p. 474.

able to eliminate most of this wastage, we should require for a population of 150,000,000 an annual cut of 31,793,000,000 cubic feet per year to maintain the present rate of consumption. At the present rate of growth this would require 1,325,000,000 acres conservatively managed, and if we should increase the rate of growth per acre to that which prevails in Germany or the Netherlands, i. e., to 50 cubic feet, we should need 636,000,000 acres of growing forest. Our present forest acreage, including the areas denuded and not restocking, is not more than 480,000,000 acres.

To quote from a recent government publication[1]: "The task of providing for our future requirements of timber is too large to leave wholly to private initiative and too urgent to leave to economic chance. Our forest wealth has melted away before our immense agricultural and industrial development, which caught us unprepared to take this fundamentally new step in our development, the cultivated forest. Only a beginning has been made in changing the national point of view from the idea of wasteful and unrestricted use to the idea of careful forest husbandry based mainly on the principle of growing our annual supply. Still less has been the advance in better forest management itself, for, aside from the one-fifth of our forest area in public ownership, relatively minor progress has been made either in stopping forest devastation or in the elementary steps toward adequate reforestation. Meanwhile, without a drastic and immediate change in policy, there looms a sharp curtailment of timber consumption below anything our population or our industries can easily be adjusted to. It is therefore obvious that a comprehensive policy is needed, the main elements of which may be stated as follows:

"*The Growth Problem.* Some of our public forest lands have not yet been brought under management for continuous timber production. This should be done as rapidly as possible. In order to help tide over the era of timber shortage, the standard of productivity of all public forests should be increased by better protection from fire, insects, and disease;

[1] "Utilization of our Lands for Crops, Pasture and Forests," by L. C. Gray, O. E. Baker, F. J. Marschner, and B. O. Weitz, Bureau of Agricultural Economics, and W. R. Chapline, Ward Shepard and Raphael Zon, Forest Service, U. S. Department of Agriculture, *Yearbook*, 1923, p. 500 *et seq.*

by a more adequate technical service both in forest research and in forest management; and by large-scale planting of now idle lands. As our public forests are largely in Federal ownership, this is chiefly a Federal problem.

"The problem of increasing the yields on private lands is much more complex and difficult. One large part of that problem is the better handling of our 150,000,000 acres of farm wood lots. The first essential step is to educate the farmer to apply to his wood lot the same idea of continuous cropping that he applies in his fields. He will have to learn to use selective cutting, to exclude or restrict grazing in his woodlands, and to keep out fire. He will need assistance in marketing his timber products and in obtaining cheap nursery stock for planting. Public leadership is needed in all these ways. Increasing the yields of private lands implies first of all that the public will step in and put a halt to forest denudation. Irrespective of who will in future own these lands or who will harvest the final crop, the present owner must be required in cutting his timber, to leave the land in productive condition, that is, restocked or restocking with young growth. To permit him to do this, however, with a reasonable chance of profit, the public must do its share to reduce risks. The chief risk, fire, must be met by a concerted effort by the national and state governments and by private owners to reduce fires to the point where all forests have a fair chance of escaping destruction. The risk to the individual may also be lessened by providing an adequate system of timber insurance. The development of systems of credit adapted to the special conditions of timber ownership by private agencies is another thing needed for encouraging private initiative, especially for small holders.[1] It is also essential to encourage the private timber grower by supplanting the present property tax on growing timber crops with a more efficient form of taxation. The property tax is collected annually even though the crop may not be ready to sell for many years, and will be increasingly burdensome as private reforestation becomes more general. A third way in which public agencies can help increase yields

[1] Considerable progress in this matter has been made since the date of writing of the article quoted.

is through more adequate research in methods of timber growing and forest management, and by educational efforts to get those methods into use.

"*The Waste Problem.* Public leadership is needed to reduce the large waste of merchantable timber from fire, insects, disease, and windfall. Still larger are the problems of wood waste in manufacture and use, all the way from the woods to the finished product. These problems require research and public leadership on a larger scale than we have at present."

"*The Ownership Problem.* It is desirable to develop private enterprise in forestry as rapidly as possible, as outlined above, but it is well to recognize that we should not rely on this as the major means of providing for the era of prospective shortage. Time is necessary to develop the requisite interest, and the potent stimulus of high values for timber and timber products is becoming influential only gradually.

"To meet the need for rapid action within the next few decades to make provision against the severe shortage that is in prospect it will be necessary to rely heavily on public ownership and operation. The public forests—Federal, state, county, and municipal—now constituting only about one-fifth of our forest area—should be greatly increased. Of our 483,000,000 acres of forest and cut-over land half should be in public ownership. This would involve an increase of 150,000,000 acres, or several million acres each year.

"The above conclusion implies that the areas that are to be devoted to reforestation as well as the areas that should be reserved during the next forest cycle for pasture and for crops, should be determined by deliberate selection."

In short, as the Department of Agriculture says, the forest problem requires rapid action on a large scale, for we are compelled within a few years to effect a veritable revolution in the point of view and methods involved in the utilization of land for forests.

The Commission can do no better than endorse the general lines of action here laid down. It feels, however, that special attention should be drawn to the necessity for making

forests an insurable risk and to the lifting of the burden of the general property tax.

Protection against fire can be handled only on a regional basis. The cost of reasonably satisfactory fire protection would not be great if it were evenly distributed over the protected district, but it is a sheer impossibility for a single owner to protect his forest property from fires which may originate anywhere in the forest area in which that property is located. The lack of protection precludes the use of insurance and the lack of insurance promotes cutting to avoid risk.

The general property tax treats growing forests as if they were annual crops, forces cutting, and militates against reforestation. Forests will reproduce themselves if given a reasonable chance, and it must be made worthwhile for private owners to see that this takes place if our timber requirements of the future are to be met. Some States have already taken action along these lines but the measures adopted are as yet totally inadequate.

While it does not appear that taxation has in the past been a determining factor in preventing reforestation, it is becoming an obstacle of constantly increasing importance as reforestation comes more and more into the field of practicability.

A special Forest Taxation Inquiry provided for by Congress is now under way and its conclusions should be made the basis of constructive action as soon as they become available. The nation, through its governing bodies, could well afford to treat growing forests with generosity. A timber supply can thereby be assured for the future, and the more submarginal crop lands devoted to the growing of timber the better it will be for the grower of crops.

Such adjustment of taxation, together with a great expansion of public ownership of forest land, as well as the other measures here proposed for the preservation and better utilization of our forests, would go far toward furnishing a solution of the problems of agriculture as well as those of conservation of natural resources. We could afford recklessly to use land and its natural products when we had so great a supply relatively to the total demand that there

was no danger of shortage of any crop which our soil was adapted to produce. But the impending shortage of timber calls for a change of policy. An adequate forest cover is of such great importance not only for our future requirements of lumber, but also for the preservation of the soil and for the control of floods, that large-scale action for the building up of forests should immediately be undertaken.

Land Classification

This action should be based upon the comprehensive plan for the utilization of land already noted as essential. The National Agricultural Conference of 1922 reached the conclusion that a deliberate and unified plan of national land utilization is imperative, and recommended that a national land commission be established for drafting such a unified plan of land utilization and putting it into effect. The Conference proposed that this commission should include representatives of the governmental agencies concerned with the administration of the agricultural interests of the nation.

Though the necessity is great, it does not seem advisable that a commission of this sort should be an agent of the Federal government nor that it consist of representatives of governmental bureaus. Such a commission could perform its task properly only if it were entirely free from political considerations since it would, no doubt, declare a large part of the land resources of the country submarginal for agricultural use, and under present conditions, fitted only for forest, grazing, or recreational purposes. It is probable that such an assertion would be strongly opposed by all districts declared submarginal. The utilization of land for forest or recreational purposes means partial depopulation of the district affected. It is not to be expected that the present inhabitants of any such district, nor the local governments involved, would welcome such an outcome. On the contrary, they would be likely to raise strong objections thereto and would attempt to exert political pressure to prevent its consummation.

It seems, therefore, that land classification can be suc-

cessfully undertaken only by an agency which is entirely independent of the Federal government, the state governments, and of all business interests of a local or regional character.

There is here an opportunity for the business interests of the country as a whole to render a great and permanent service to agriculture and to the nation by setting up an independent organization to undertake such a land classification and by endowing it with adequate funds.

The organization might be called "National Agricultural Foundation" and its functions should extend beyond that of mere land classification. It should be the agency for a variety of activities which, for some reason or other, cannot well be undertaken by Federal or state governments or by organizations of farmers. Some instances of suitable activities will be indicated in the ensuing sections of this report. Needless to say, the "Foundation" should avoid duplication of activities which are now satisfactorily performed by other agencies, though it would probably be able to do useful work in coordinating these activities.

The essential feature of the "Foundation" is independence. Its endowment should be administered by a board of directors composed of leading business men and farmers from various sections of the country and should be used for the permanent employment of experts in agriculture, in general economics, and in the physical sciences germane to agriculture, who would constitute an association for the promotion of the interest of agriculture as part of the national economy.

The first task to which the experts should devote their attention should be the scientific classification of the land resources of the nation and this should as soon as possible be followed by an effort to put the land to the use to which it is best fitted. This land classification would have to be accompanied, and to a certain extent preceded, by a thorough economic survey of the land resources of the whole country. Such a survey is now under way in Michigan, where valuable work has been done. This work should be rapidly expanded over all of the United States. It seems best to leave this survey in the hands of the state governments, whose action

might be stimulated by a Federal appropriation on the condition that the state match the Federal government's grant dollar for dollar.

It would not be necessary for the "Foundation" to postpone its land classification until all the state surveys are completed. Some preliminary land classification can, and should, be undertaken by the "Foundation" immediately after it has come into existence. Gradually, with the progress of the state surveys, this preliminary classification could be made complete.

Information Service to Landseekers

In order to make its land classification effective the "Foundation" should inaugurate an information service for landseekers, for farmers as well as for urban people who contemplate going into agriculture. This information service would give entirely unbiased advice as to land and general agricultural conditions in all parts of the country. The selection of the best land is obviously a task which goes far beyond the faculties of an individual, since in deciding which is the best land, not only soil and climatic conditions must be considered, but also complicated marketing problems. At present, however, we are placing the entire burden of this selection on the individual farmer. Almost the only help which he has today is the advice that he can get from the various local and regional development bodies, such as local chambers of commerce, railroad settlement bureaus, and state immigration departments. Most of these are maintained for the purpose of drawing as many landseekers as possible into the district served by the agency in question, and their activities are in a not insignificant degree responsible for our agricultural overexpansion. The ultimate aim of the Foundation would be gradually to concentrate farmers on the best lands and to evacuate the submarginal districts entirely, so that they could then be turned over to grazing or forest, either for the production of lumber or as game and fish preserves, or general recreational use. To this end something more than an educational service will, of course, be needed. In fact, only by the fullest cooperation of a

number of agencies could effective work be done. An expansion of the national, state and municipal holdings of non-agricultural land would release farmers either to go to better lands or to quit farming altogether. Credits would be necessary when transfers were being made. The Foundation should seek to make these available through the proper channels to all approved applicants for approved lands.

Closer Settlement Areas

In the South, and perhaps in other parts of the country, the transplantation of farmers from submarginal to better lands could advantageously be connected with an attempt at closer settlement. At present the farms in many rural districts are not contiguous but are interspersed with tracts of land which are not in agricultural use. Of late years the open spaces between farms have increased as the exodus from the farms has proceeded. This scattered location of farms is clearly undesirable. The wide open spaces are an obstacle to cooperation among the farmers, to supervision by county and community agents, to the development of the use of electrical power, and to the social intercourse which is essential to make farm life attractive. Closer settlement tracts might be established on good land and opened up to men now working much poorer soil. The selection of these tracts might well constitute part of the land classification work of the Foundation.

In this way the transplantation of submarginal farmers would be connected with a systematic effort at organized land settlement. Most students of agricultural problems are convinced that a truly prosperous and contented agriculture can, in many sections at any rate, be built up only on a basis of community organization with responsible direction. "We have one general problem of modern democracy, and that is to enable the average man, and, indeed, the man below the average, to avail himself of the greater brain power of the relatively few superior men in the country."[1] Community organization of agriculture would furnish a solution of this problem. Under such organization the

[1] R. T. Ely, "Private Colonization of Land," *American Economic Review*, September, 1918.

work of all the farmers living in the community is directed according to the best standards of efficiency, and those activities for which individual performance is not the most efficient method are performed collectively.

The institution of the county agent has a similar purpose and is everywhere of the greatest value to agriculture. In many parts of the country, however, the county is far too large a unit to enable satisfactory results to be attained in this way. In the South a county often has 3,000 farmers, a large percentage of whom are extremely deficient in agricultural education and training. It is physically impossible for the county agent to reach all the farmers in his county and give them the benefit of his knowledge. The educational and organizational tasks involved are so great that they can be solved only if attacked on a territorial basis smaller than the county. It seems necessary, therefore, to supplement the work of the county agent by community organization.

Leadership of the community should be in the hands of a community agent, chosen by a community council whose members would be elected by all the farmers in the group. Agent and council together would constitute the management, would find out what the most efficient producing methods in the community were, and would endeavor to have every farmer in the community employ these methods.

Of course, no farmer could be forced to follow the advice of this community management, but it seems reasonable to expect that, as a rule, the farmers would cooperate, since doing so would mean greater profit for them. The community spirit which in such organized groups could be built up would be an effective means for enforcing the wishes of the management. The social importance of a community spirit and traditions can scarcely be overrated. It is through social institutions in which the community can take a just pride that farms can offer attractions superior to those available in the city and can continue to make their contribution to all that is best in American life.[1]

In marketing as well as in production, the agricultural industry is suffering from old-fashioned individualistic

[1] See: Emily F. Hoag, "The National Influence of a Single Farm Community," U. S. Department of Agriculture, Bulletin No. 984.

methods which can no longer meet the complex and difficult tasks of modern farm and selling practices. Community organization in conjunction with cooperative activities is probably the best means for overcoming the disadvantages of the one-man farm system. The community agent should be prominent in local cooperative activities and he would normally be in charge of the local facilities used jointly by the farmers of the community such as the cotton gin, the hatchery, the mill for grinding seed or grain, the canning plant, the sweet potato curing house, and other similar processing machinery.

Such organization as is here proposed is already developing in certain parts of the South. The Georgia Cotton Growers' Cooperative Association recently set up several Community Centers which are organizing the farmers. The Commission was informed that the experience with these Community Centers is entirely satisfactory. They are proving especially valuable in the campaign for crop diversification. It seems certain that significant results in the Southern diversification program can be obtained only through some form of community organization. Only in exceptional cases is an individual Southern cotton farmer capable of breaking away from the one-crop cotton system. The average cotton farmer needs somebody who can teach him how to grow diversified crops and who can handle the marketing of these crops for him. As things now are, individual Southern farmers who start raising diversified crops often find their efforts nullified by lack of marketing facilities and are in this way obliged to return to the old one-crop cotton system. The slow progress which diversification efforts have made is largely attributable to this cause.

Such community organization would by no means make superfluous the present county agent. The work of the county agent would be necessary for directing and coordinating the activities of the community agents and for handling those affairs for which the county is the more suitable unit.

The organization of agriculture along the lines here suggested would, of course, mean an added production cost. But, in the opinion of the Commission, this would be a cost which would amply justify itself in increased productivity.

The expense could be covered in the same form as the costs of the county agents are now being covered, that is by means of funds from the Federal treasury, the state governments, and the counties. Or special assessments against all the farmers in the community might be made. A third method would be to take a small percentage from the sales price of all the produce raised in the community and marketed with the help of the community management. Probably a combination of all three financing methods would prove the most practicable form. Provision should be made for gradual retirement of all governmental contributions to the cost of maintaining the community management. As soon as possible the cost should be borne exclusively by the farmers of the community.

Considerable difficulties will probably arise from the fact that an insufficient number of men fitted and willing to act as community agents will be available. The agents must, of course, be trained agriculturalists with educational and administrative talents. It will in the main be incumbent upon the state colleges of agriculture to supply the community agents and all the other managerial talent which will be required in the organization of the agricultural industry. A sufficient number of capable men for acting as community agents, county agents, cooperative managers, etc., can be obtained only if the salaries in these fields are adequate. In preparing the salary schedules for these positions a liberal and far-sighted policy should be pursued. Manufacture and commerce have found out long ago that a high salary for a capable manager is a profitable investment. The same should prove true in agriculture.

Land settlement work of this character would constitute an effective means for wiping out the deplorable tenancy evil of the Southern states. In some of the states in the South today nearly two-thirds of the farmers are tenants, despite the fact that land values are generally low in this section. In a country as rich as the United States it should be possible for renters of low priced farms to work themselves up to ownership. The means for solving the problem follow from the preceding discussion. The "National Agricultural Foundation" might well select a "closer settle-

ment tract." In this "closer settlement tract" approved applicants would be placed as renters on a farm prepared in advance for them, and there they would work under the supervision and with the assistance of the community management. Part of the proceeds from their farm work would every year be used in payments on the land. With the low investment in the land and the low building costs of the South not many years should be needed until such a man acquired the ownership of his farm. The renters who already live in a "closer settlement tract" at the time of the establishment of the community management would, of course, remain on their farms and would be changed into owners through a gradual education to more efficient production.

For preparing farms in the "closer settlement tracts" capital will be needed. The money spent for preparing a farm would, of course, represent only a loan to the settler. Gradually he would pay back this loan out of the proceeds of his farm and out of a mortgage to be secured from a Federal land bank or other mortgage institution. As the work of establishing such farms on "closer settlement tracts" can proceed but slowly and will be a matter of several decades, the capital requirements for such settlement work need not be excessively high. It would be the task of the Foundation to make this capital available. The work should go on only as rapidly as conditions of supply make development advisable, and should not, as a rule, involve an addition to the existing number of farmers.

There would, of course, be no objection to state governments mapping out and colonizing "closer settlement tracts" and promoting community organization. If the Foundation suggested above does not materialize, vigorous efforts along this line would seem incumbent upon those states where the need for such measures is greatest. There is, however, always a tendency for states taking action along these lines to bring poor land into use. Some communities have prospered on poor land, but if any large development of community organization is to be promoted, it must be given reasonably good land to work upon.

If the trend in agriculture suggested in the earlier sections of this report is correctly gauged, and if expensive machinery

and large scale operations become essential to the most efficient farming technique, community organization and cooperation in production will be necessary if the farmer with small capital is to maintain his independent position. The present need for such organization is greatest in the South, but it is by no means improbable that other sections of the country at no very distant date will strongly require it. The industrialization of agriculture appears to be under way and organization of independent producers to perform those functions which can be done satisfactorily only on a fairly large scale would seem to be the only alternative to centralized control. The latter is a consummation to be avoided if at all possible.

Guidance of Population Movement

A proper utilization of our land resources implies a proper distribution of population as between rural and urban pursuits. There is every probability that, with the progressive efficiency of agriculture, especially with the expansion of machine farming, fewer farm workers will be needed. As the nation grows more productive it does not consume more food per capita but directs its demand toward manufactured commodities. The natural increase in population, moreover, is greatest in the rural districts. There is, consequently, a fairly constant need for movement from farms to cities. At times this goes on too slowly and at times too rapidly, but always with great waste.

The number of people concerned in this movement between farms and cities is very great. Since 1920, an average of about two million people, or 7% of the total farm population, has left the farms every year. A considerable counter movement from cities to farms, and the regular large excess of births over deaths in the rural districts, has reduced this figure, at the moment, to an average yearly net loss of 500,000 in the farm population. The magnitude of the movement back to the farms in the present time of depression in agriculture is striking. The U. S. Department of Agriculture estimates that in 1922 about 880,000 people moved from cities to farms, while in 1924 the number was estimated at 1,396,000. Many of these were people who, after having

left their farms, failed to obtain a satisfactory foothold in the city. It is probable that if they had been given some assistance in finding jobs, or at least sufficient advance information as to what they could expect in a city, a large part of the backwash to the country, with all its economic waste, could have been prevented.

A better organized employment service would help. This is important especially in the case of the seasonal movement of farm laborers to cities in the fall of each year. As the bulk of the labor demands for agriculture come in the summer and fall, hundreds of thousands of farm laborers flock to urban centers late in the year, many of whom float around in the city during the winter months, where they consume their savings, only to return in the spring to the farming districts just as poor as they were the year before. Better direction of this seasonal drift to cities is urgently needed.

The task of directing the population movement between farms and cities might well be undertaken by the National Agricultural Foundation. If this body is to act as a national information bureau for farmers to advise them about land and agricultural conditions, it would seem natural to add the functions of giving information to farmers about employment conditions in urban centers and of directing the men who leave farms to those cities where the best employment is available. In this work the Foundation would, of course, act in closest cooperation with all existing accredited employment agencies.

In addition to such vocational guidance, it seems desirable that the Foundation should make a systematic effort at eliminating that type of farmer who cannot meet the difficult requirements of efficiently conducted agriculture. Our manufacturing industries will probably in a not distant future be face to face with a shortage of common labor since the supply of the manufacturing industries has been recruited largely out of the immigrant element in our population. The immigrants who came before the War are gradually reaching an age at which they are no longer fitted for common labor while their children in many cases are reaching out for better jobs. It is true that the invention of labor-saving machinery is progressing rapidly and is making super-

fluous large numbers of common laborers. But in spite of such machinery, modern society has still a large demand for labor of this type. The rise in the wage scale of common labor during the last few years is an indication that the supply of common labor is already diminishing. The transfer of low-grade farmers to cities would therefore seem to be beneficial to all concerned.

Farmers who are now, or who have the ability to become, efficient producers, should be encouraged to remain on the farms. The time is likely to come when such men will be able to earn excellent returns. The task is to get these men on good lands and to put into effect a technique which will make the most of their ability.

In such an undertaking the "Foundation" should play a prominent part. Education in the best methods needs to be brought more closely home. Precept, or even scattered examples, are not enough. Working through its community settlements, in which only selected farmers should have a place, and as a part of a large program of land utilization and the distribution of population, the "Foundation" could do much to improve the status of agriculture and promote the prosperity of the population as a whole.

Negative Action in Land Utilization

There are certain phases of land utilization in which negative action at the present time is called for.

Reclamation

Since farmers are now suffering from overproduction it seems worse than futile to spend new millions on reclamation projects with the aim of bringing still more land under cultivation. Reclamation has so far been spectacular rather than important in agriculture, whether for good or ill. The total yield from all land reclaimed by Federal government activity is about 1% of the agricultural production of the country and it cannot, therefore, have been a very significant cause of depression. Nevertheless it does not take a large surplus to depress very materially the prices of most agricultural commodities and the production of the reclaimed areas is, of course, not equally divided among the various crops, but is

devoted to certain specialties. Not only have the reclamation activities of the Federal government contributed in some measure to the evil times which have fallen on agriculture in general, but the projects themselves have been very dubious ventures from the economic point of view. In many cases settlers on government irrigated lands have been quite unable to meet the cost of the water, and a considerable proportion of the area covered by the projects has never been taken up, or has been abandoned after an attempt had been made to farm it. Entirely inadequate consideration has been given to the economic aspects of reclamation schemes. It is certain that not only must the productivity of the area affected be great enough to permit payments for the water, but that the land must be prepared for settlement and a careful selection of settlers made. These settlers must further be furnished with a considerable amount of capital and instructed in its use, before they can hope to make a success of dry farming.[1]

The value of irrigation projects is not, of course, to be determined solely on their agricultural possibilities. In some cases these may be a by-product of flood control or power development. It may be alleged also that important irrigation projects now under consideration, even if started immediately, will not be completed for many years, by which time the land that they bring into bearing may be needed. But the present area of land available for cultivation, if demand should increase, precludes any strong possibility of a real shortage of crop land for many years to come. It is no doubt advisable to proceed with the development of such irrigation projects as are now under way, but new projects should be most carefully scrutinized.

Overstimulation of Land Settlement

State immigration departments and land bureaus, along with private agencies, have been prone to indulge in ill-considered promotion in a rather too successful attempt to put settlers on lands which, on a rational estimate of present conditions of supply, have no prospect of providing their

[1] Report of Committee of Special Advisers on Reclamation, 68th Congress, 1st Session, Senate Document No. 92.

cultivators with a decent living. Though these activities have many tragedies to their account, they are perhaps to be minimized in the case of interested private business or even local governments, from whom such boosting tends to be rated at its proper value. But on the part of state authorities it is inexcusable. From them a prospective settler is entitled to a strictly honest account of the conditions which he must face and it is not in the state's interest, to say nothing of that of the settler, to give him anything else.

It is gratifying to be able to report some improvement in this matter in recent years. Thus, the U. S. Department of Agriculture says:[1]

"The old practices of extravagant display advertising have been supplanted in many cases by a sober statement of facts in the form of official publications, crop and livestock reports, exhibits of bona fide products, and classified advertisements in the public press.

"Various state agencies have been created to disseminate information tending to assist the people who contemplate settling in the state and to look after the incoming settlers after they are located. The work of these agencies includes selecting locations for colonization projects or for individual settlers, offering ready-made plans for colonization, keeping the settlers in touch with state and Federal agencies, controlling the sale of real estate by licensing real estate dealers, and personal follow-up work with the settlers who need advice in establishing themselves. . . .

"Michigan offers protection to settlers against the purchase of worthless land through the land certification act and detailed information as to the economic possibilities of idle land through the work of the land economic survey. State land certification is confined to land in private ownership and all expenses are paid by the owners. The land is examined by experts selected by the state and the certificates as to its agricultural possibilities are issued on the basis of the examiner's reports. The owners contract with the state to sell for agriculture only certified land. The cost to date has been about 16 cents per acre. The state is attempting to place before the public the advantages of cer-

[1] U. S. Department of Agriculture, *Yearbook*, 1926, p. 468, *et seq.*

tification in such a way that the demand for certified land will induce all private holders to take advantage of the act."

Other states, notably Wisconsin, have been pursuing a commendable policy in this matter for some years. Such activities, however, are always subject to attack from interested private parties and constant effort is required to keep them alive. Yet few things can be surer than that a State has nothing to gain by increasing the number of disgruntled and poverty-stricken citizens.

Immigration

A significant, if not dominant, proportion of the immigration not now restricted by quota legislation tends to enter agriculture rather than industry. This is especially true of Mexican immigration. A general relaxation of immigration restrictions would, no doubt, be of some benefit to American agriculture, both by cutting down on the production of agricultural commodities in other countries and by increasing the demand for such commodities here, but it is generally conceded that this would not be advisable on long time economic, political, and sociological considerations. Those same considerations, however, argue for the inclusion of Mexico and other Central and South American countries within the quota. If the restriction of immigration in general is adverse to the immediate interests of agriculture[1] but is nevertheless justifiable on other grounds, it seems only logical that in the carrying out of that policy immigrants should not be admitted, without restriction, from the one country which furnishes agriculturalists in large numbers. The application of immigration restriction to Mexico would almost certainly be to the interest of American agriculture in general though it would probably injure those farmers who employ Mexican labor. It would be in harmony, too, with our general policy on immigration and, on the assumption of the essential soundness of that policy, would promote the general welfare. The solution of the problems of agriculture does not lie in the direction of putting on the land those workers who will take the wage which a low yield affords but rather in raising the yield to the level which high wage men demand.

[1] See Chapter II.

CHAPTER IX

TAXATION

Incidence of Farm Taxation

THE farmer, like others, is subject to taxation by Federal, state, and local governing bodies. The share of Federal taxation which he bears is by no means proportionate to his numbers nor even to his income. The bulk of Federal taxation is now obtained through the income tax and, under the existing system, the level of exemption, including the allowance for each dependent, is so high as to excuse most farmers from any payment at all. Further than this, since the income tax falls only on pecuniary income, many farmers, who on the basis of real income would be brought within the scope of the tax, are relieved of payment owing to the fact that a considerable share of their real income is obtained in non-pecuniary form. Less than $10,000,000 of the total of something like $1,500,000,000 of taxes paid by farmers in 1924–25 represents Federal income tax payments. The farmer likewise pays little under the Federal inheritance tax, though he may bear somewhat more than his fair share of Federal excise taxation.[1] His position with regard to the Federal income and inheritance taxes, however, is so favorable as to override any injustice he may be suffering from excises. So far as Federal taxes are concerned, therefore, he is certainly not subject to unfavorable discrimination.

State tax systems vary greatly. Several states now obtain a considerable share of their revenues from state income taxes. In view of the small incomes of farmers in recent years this type of state taxation must fall less heavily on them than do any other of the prevailing systems. In other states, excise taxes (of which gasoline taxes are the leading

[1] The basis of this statement is the fact that the farmers as a whole are a relatively low income class and excise taxes tend to take a larger proportion of small than of large incomes.

type) and business licenses furnish a sizable part of the state revenues. These fall more heavily, but yet hardly unfairly, on the farmer. The great majority of the states, however, depend for their revenues on property taxes. Such taxes are sometimes laid on special types of property, but in the main they are additions for state purposes to the general property tax, which is universally relied upon to provide the revenues of the local governing units.

The state levies are a substantial, but by no means dominant, part of the general property tax, since the local revenues in the aggregate run into figures several times as great as the total of state budgets. The following table shows the proportion of total state to local taxes for the years 1922–1925 and the importance of the general property tax therein.

TABLE 17: STATE AND LOCAL TAXES

(In Millions of Dollars)

Year	State[1]	Local[2]	Total	Percentage of State to Total
All Taxes				
1922	858	3157	4015	21.4
1923	917	3285	4202	21.8
1924	1017	3611	4628	22.0
1925	1107	3818	4925	22.5
Taxes on General Property				
1922	348	2973[3]	3321	10.5
1923	352	3038[4]	3390	10.4
1924	351	3340[4]	3691	9.5
1925	358	3532[4]	3890	9.2

[1] Financial Statistics of States, 1922–1925, U. S. Department of Commerce, Bureau of the Census.

[2] National Industrial Conference Board: "Cost of Government in the United States," New York, 1927.

[3] Census of Wealth, Public Debt and Taxation, 1922, "Taxes Collected," U. S. Department of Commerce, Bureau of the Census.

[4] Estimated as 92.5% of the local taxes from all sources, based on Financial Statistics of Cities.

The farmer's tax burden takes the form, then, chiefly of general property tax payments, more than 90 per cent of these being for local purposes. Of the total state and local revenues received in 1922, 78.7 per cent originated from the general property tax. State governments obtained 40.1 per cent of their aggregate revenues from this source, counties

92.3 per cent, incorporated places 82.6 per cent, and "specified civil divisions" 96.0 per cent.[1] For practical purposes therefore a consideration of taxation as it affects the farmer can be confined to the general property tax.

The comparative tax figures for farmers and for non-farmers do not indicate that the farmer pays a higher per capita tax than the remainder of the community. If any conclusion is to be drawn, it is that, in absolute amount, the farmer is paying less in taxation than the non-agriculturalist. In 1922, if direct Federal taxes are excluded, the farm population paid a total per capita tax of $46.23, whereas the per capita tax for the remainder of the community amounted to $52.64. Thus, excluding the income tax, the farm occupant paid 87.8 per cent as much in taxes as the non-farm dweller. If Federal direct taxes are included, the figures become $47.90 and $70.96 per capita, respectively.

It must be emphasized, however, that that which constitutes the real tax burden is not the absolute tax, but the ratio of the tax to net income. Although, in 1922, the farmer paid only 67.5 per cent as much per capita as the remainder of the population, the per capita income in agriculture since 1920 has amounted to but something between a third and a half of that of the country as a whole.[2] The farmer has therefore had to pay taxes that represent a good deal larger proportion of his income than was the case with other groups.

The general property tax is supposed to be levied against all forms of property but, as a matter of fact, intangible property very largely escapes. On the whole, this is in accordance with sound theory though not with the law. To tax intangibles under the general property tax almost certainly involves double or multiple taxation.

It so happens, moreover, that mortgages, which are registered documents and therefore cannot be concealed, are almost the sole type of intangible property which does not

[1] Census of Wealth, Public Debt and Taxation, 1922, "Taxes Collected," U. S. Department of Commerce, Bureau of the Census; percentages computed from Table I of that document.

[2] The National Bureau of Economic Research, in its volume, "Income in the United States," p. 282, estimates that persons living on farms, in 1920, received 13.4 per cent of the total current income, and in 1921 only 9.9 per cent. The population lving on farms in 1920 was 29.9 per cent of the total of the country.

escape the general property tax. As a consequence the farmer pays more than his fair share of this tax. Evidently, either the tangible property only should be taxed, or else the various equities in the property; it is unjust to tax both. The method by which this existing double taxation might be eliminated is important. On the ability theory of taxation the levy should fall according to the equity held in the property. But in local taxation the ability theory is of much less validity than in state and national taxation. The local government might well continue to proceed on the basis of benefit, and levy taxes against tangible property, regardless of the financial and economic condition of the owner, on the ground that most of the local expenditures enhance the value of the landed property in the locality and that the taxes are therefore a fair payment for services rendered to the person paying the tax. If this were done, intangibles should be exempt. Their taxation serves only to lay an undue burden on the farmer. Taxes on tangibles, moreover, would be very much more easily administered than taxes levied on equities only.

Suggestions for Shifting the Burden of Farm Taxation

The states should, so far as practicable, relinquish the general property tax to the local governing units and obtain such revenues as they need through income taxes, excises, and business taxes. In the collection of the state's share of the general property tax, there is much injustice done as between districts. It is a matter of comparative indifference, so far as local taxes are concerned, at what percentage of its true valuation the local property is assessed, provided all property is assessed at that per cent. But the ratio of assessment to true valuation is of great moment in respect to the payments for state purposes. This is because the states levy a uniform charge on local assessments and the real burden of state taxes on the localities is in precise proportion to the approach to full valuation in the assessments in the several localities. There is a consequent strong tendency toward competitive underassessment on the part of the localities. In such efforts to obtain underassessment some

localities are far more adept than others and thus shift the load. The tendency is checked in greater or less degree by the State Boards of Equalization or State Tax Commissions, but even so it is clear that there is great inequality.

The bulk of the farmer's taxes goes for education and highways, as the following table shows:

TABLE 18: OBJECTS OF GOVERNMENT EXPENDITURE, 1924–1925

(In Millions of Dollars)

Source: National Industrial Conference Board: "Cost of Government in the United States"

	State	Local
Education	$422.0	$1,731.8
Highways	461.5	1,009.3
Social Welfare	185.9	750.0
Protection	191.7	533.7

Most states require a minimum standard of education, regardless of the ability or desire of the localities to support such a standard. It would seem that if the state exercises educational control of this sort it is incumbent upon it to assume a considerable share of the financial burden. One state, Delaware, has assumed entire responsibility for the current expenditures of the school system. In other states, aid is given by one of two methods.[1] The first, and more common, is the "large fund method." Under this method, aid is distributed in proportion to the educational needs of the community, without regard to the ability of the locality itself to pay. Most states use this method in spite of the fact that their funds are so small that they can equalize effectively the burden of only the most meager minimum program. The other, the "small fund method" provides for the grant of more substantial aid to the poorer communities and less to the more prosperous. Using this method, a given state educational program can be put into effect with much less cost to the state than is possible under the older scheme and it tends to bring educational expenditures

[1] See Paul R. Mort: "State Support for Public Schools," Bureau of Publications, Teachers College, Columbia University, New York, 1926, Ch. IV.

by the localities into something like a proportion to ability to pay.

Of expenditures made by the states for educational purposes in 1925, about 64% was in the form of apportionments to minor civil divisions and 32% in direct support of the State institutions. By applying these percentages to the figures for the fiscal year 1924–1925 it is seen that of the $422,000,000 spent by the state governments for "education" about $270,000,000 went out in the form of apportionments to be spent by minor civil divisions and that about $135,000,000 was spent for the support of various state educational institutions. The remainder was applied to the upkeep of the supervising departments and to the support of state and other libraries. If the apportionments to the localities had been made in inverse relationship to the income of the local units, a very considerable alleviation of the burden of taxation on the poorer districts could have been achieved without any increase in state expenditures.

It is probably not feasible for most states to go as far as Delaware has done, but a larger share of the total expenditures for schools than is now borne by most state governments might well be assumed by them. This would have the effect of transferring part of the local burden of education from rural to urban districts and would enable the poorer sections to support without excessive difficulty the minimum standard set by the state.

There is in some cases, perhaps, an argument for a similar redistribution of the tax burden for roads, but it is not so evident that the cost of roads is not pretty generally apportioned with some approximation to equity on the basis of benefit received. If the state governments abandon the general property tax and support their road building program out of the income derived from other sources, particularly from taxes which fall on the users of the highways, such expenditures as the rural communities make for their own roads, while they would no doubt yield incidental benefits to urban dwellers, ought to be borne by the localities principally concerned.

Whatever the burden of taxation on rural communities, the bulk of it must come from the land, since this is almost

the sole source of wealth in these districts. About the only practicable alternative to the general property tax in the raising of local revenues would be a straight land tax. A straight land tax would have some advantages, and, if coupled with a state income tax, might well provide a considerably better system than that now prevailing. It would, if properly applied, recognize the true character of the general property tax, namely, that, in effect, it is a specialized property tax on real property. Improvements on and in the land might well be taxed relatively lightly and the site value in consequence somewhat more heavily. Such a system would tend to retard such enhancement of land values as issues solely from increasing scarcity relative to demand. This would make no difference to present owners other than a light shifting of the burden from those farmers whose land is of little value relative to the improvements thereon to those for whom the converse is the case; but it would make the acquisition of land by young farmers in the future an easier task and would tend to diminish the force of the growing tendency toward tenancy. By taxing relatively lightly improvements in the land a stimulus would be given to conservative culture rather than to soil robbery.

In all such questions of readjustment of the tax burden on agriculture, there is need and wide opportunity for more constructive cooperation between farm organizations and organizations representing other economic interests in each state. Farm taxation is primarily a local and state problem, and undue burdens upon local agricultural resources in the long run are bound to injure the economic interests of the state as a whole. General local associations of taxpayers, representing all groups, have in many cases been helpful in securing better distribution of local tax burdens, and the field for their activity in respect to farm taxation is wide.

It must be remembered, moreover, that, in spite of these and other improvements in our tax system, taxation is likely to remain a heavy burden on agriculture. With the growing complexity of our economic life and the ever increasing demands on governments for social welfare work further increase in taxes seems unavoidable. On the other hand, numerous governmental expenditures are of questionable

necessity or public benefit and it is incumbent upon the farmers themselves to exercise greater control over such expenditures. The democratic form of our government makes the people themselves the final judges of fiscal policies. In the past farmers as well as urban dwellers probably have not been as careful in exercising their rights and duties in this respect as they ought to have been, and in the question of local and state expenditures, the burden of which rests so heavily upon the farmer, there is especial need for constant watchfulness and control on his part.

CHAPTER X

RURAL BANKING AND AGRICULTURAL CREDIT FACILITIES

IT IS frequently stated, and with truth, that the American farmer does not need more credit, and that he has had, in fact, too much for his own good. What he does need is not more, but cheaper credit, granted with greater discrimination, and he needs safe banks. The machinery of agricultural credit as it exists today is in many respects seriously defective. It will require time and organization to change this situation but it is possible to effect great improvements within a few years if the matter is energetically attacked.

Long-Time Agricultural Credit

The situation with regard to long-time credit is reasonably good. The existing machinery for extending mortgage credit to the agricultural industry (Federal land banks, joint stock land banks, insurance companies and private mortgage corporations) is, in general, working fairly well, and does not require fundamental change. Rates on mortgage loans will probably fall to a lower level when agricultural conditions improve, but they are not high even now.

A lower rate on mortgage credit would make possible an alleviation of the burden of mortgage debt now weighing on agriculture and might be accompanied by a rise in land values. The tendency toward a fall in the general rate of interest which now seems under way, will of itself operate to send land values upward, since the lower the interest rate, the higher is the capital value of the land. While high land values are, from the social point of view, undesirable, a rise in land values brought about by a fall in the general level of interest rates would not mean an increase in fixed charges and cannot be objected to on this account. The prospective higher valuation of farm land should create a more hopeful

outlook among the farming population and bring support to the market which is eminently desirable.

Short-Time and Intermediate Credit

In contrast with the long-time credit situation, conditions in the field of short-time and intermediate credit are far from satisfactory.

Country Banks

The Commission was impressed with the defects of the existing commercial banking system in the rural districts. There are two problems involved: (1) safety and (2) reasonable rates. Most rural districts are served by very small banks and these are, as a rule, too numerous. In June, 1926, North Dakota had one bank for every 1,114 people, South Dakota one for every 1,439, Iowa one for every 1,641, and Minnesota one for every 3,000. This compares with 9,503 people to every bank in Massachusetts and 10,188 in New York.[1]

It is, no doubt, necessary to have more banks per unit of population in agricultural than in urban districts, but many rural districts obviously have too many banks. The numerous bank failures of the last few years in the Central and Northwest States as well as in the South have somewhat reduced the number, but it is still excessive.

These bank failures have shown, moreover, how unsafe many of the small country banks are. Further than this, and quite apart from the question of security, such banks are incapable of rendering efficient service. With but $10,000 or $15,000 capital, which is not infrequent in rural districts, it is impossible for a bank to have a volume of business large enough to support capable management or to supply credit at reasonable rates. On this point Mr. Craig B. Hazlewood, Vice-President of the American Bankers' Association, is reported as follows[2]: "If a ten-to-one ratio between the total

[1] Computed from the figures for population and number of banks as given in *Annual Report of the Comptroller of the Currency*, 1926, pp. 94–95.

[2] In an address before the annual convention of the Maryland Bankers' Association at Atlantic City, N. J.; quoted from *New York Times*, May 19, 1927.

deposit liabilities and capital and surplus may be accepted as conservative, it is obvious that a bank capitalized at $10,000 and with $100,000 in deposits cannot pay a profit nor show progress regardless of interest rates, even if it were operated by one man. Face to face and by correspondence I have discussed this matter with many country bankers, and I find that almost all of them favor a minimum of $25,000 capital, while many of the more conservative incline to $50,000."

It is a significant fact that Canadian farmers, who were subjected to the same price and cost conditions as our own, were spared the added blow of the loss of bank deposits. Just at the moment when there was the greatest need of a reserve of cash, many of our own farmers found that they had saved in vain. The difference in the situation on the two sides of the boundary is a significant commentary on our rural banking system. Branch banking of the Canadian type is not practicable in this country, where banking has developed along entirely different lines, and there are sound objections to such a system on grounds of principle as well as expediency. Centralization of banking power can easily go too far. But serious consideration should be given to the desirability of extending branch banking within certain prescribed rural areas. This would not solve the problem of a distribution of risks among industries of varying kind, but it would make for stronger institutions than exist under present conditions. Even without such a development, motor cars and good roads now enable the rural population to attend to their banking business at considerable distances from the farm. It seems, therefore, that agricultural interests would be better served by a system of fewer and larger rural banking institutions. Such a system would greatly reduce overhead costs and interest rates, increase safety, and make it possible to develop a type of rural banker fitted for constructive leadership.

The system of rural banking control now prevailing is often inadequate and the supervision of state banks in many states is inefficient. A number of defects in rural banking must be attributed to loose state legislation, such as the guarantee of bank deposits, which puts a premium on reckless banking. Political influence in the controlling machinery is

also a contributing factor. Of almost equal importance is the fact that the salaries of the officials of the state banking departments are seldom high enough to attract capable men.

As most of the country banks are incorporated under state laws, improvements of the rural banking system must be accomplished by state legislation, a process which is likely to take long. It might be speeded up by centralized effort on a national scale. The American Bankers' Association, by drafting model state banking laws and urging their enactment on all state legislatures, can here be of great service to agriculture. And "Better Rural Banking Associations," created by far-sighted citizens, might systematically educate the voters of the farming states to the necessity of early legislative action in this field.

It would probably be beneficial if state banking laws should place a stricter responsibility on the directors of banks than is the case at present. Many of the bank failures of the last few years would probably have been prevented if the directors had shown better judgment or had more closely supervised the affairs of their banks. The most effective way for enforcing such close supervision would seem to be the holding of directors to strict accountability.

Country Bank Associations

Mr. Fred I. Kent, Chairman of the Commerce and Marine Commission of the American Bankers' Association, has proposed that country banks organize themselves in voluntary associations within regional districts for the purpose of improving banking conditions. The idea is an outgrowth of the plan used in establishing the city clearing house associations.

The size of the district of such an association of country banks would vary from one to several counties, but within each state these local groups would be united in a larger association. The object would be to encourage the development and maintenance of sound banking and to increase the confidence of the public in the banking institutions through cooperation of the banks for the greater safety of all. Mr. Kent calls the associations "Bankers Assurance Associations."

In each district association there would be an executive committee which would have power to examine the member banks, through state or Federal Reserve bank examiners, or by a special examiner employed for this purpose. Member banks would further be obliged to file with the executive committee of the association weekly statements of their condition. These statements would be prepared in comparative form and would be checked by an accountant employed by the committee. Where, according to the statement, a dangerous situation seemed to be developing the committee would immediately take action. The scope of the activities of the associations would be decided by the necessities of each case. Mr. Kent hopes that these associations would be able to prevent the establishment of unnecessary and unsound banks. He further hopes that such associations would have a tendency to stop agitation for guarantee of bank deposits by state governments.

In Iowa a proposal is under consideration to make membership in such an association mandatory for all state banks. The plan, as laid by the bankers of Iowa before the state legislature, calls for dividing the state into about twenty banking districts, with not more than eighty banks to any district. In each of these districts a district banking association would be established of which all the state banks of the district would be members. National banks and private banks would be permitted to join such an association provided they conformed to its regulations. Each association would employ a resident examiner who would make a continuing examination of the banks. If some such organization as is here proposed can be generally developed on the initiative of the banks themselves, a considerable amelioration of rural banking conditions might be accomplished.

High Interest Rates

Farmers as a class, especially in the Northwest and South, are burdened with unnecessarily high interest charges. A study made in 1921 by the U. S. Department of Agriculture,[1] showed prevailing average interest rates to farmers on short-

[1] U. S. Department of Agriculture, Bulletin No. 1048, "Bank Loans to Farmers on Personal and Collateral Security," 1923, pp. 7–13.

time loans of over $100 to be, in North Dakota 9.82 per cent, in South Dakota 9.59 per cent, and in Montana 9.90 per cent. Although these data were collected during a period of exceptionally high interest charges all over the United States, it should be kept in mind that the rates shown by no means indicate the total interest burden on the farmer. It is common practice in the rural districts to add to the interest of a bank loan certain other items. Often a "commission" or "bonus" is charged and in many cases the borrower must leave permanently on deposit with the bank a certain portion of the loan. A study made by the U. S. Department of Agriculture in 1916 showed that these extra charges added on an average from 0.2 per cent in Delaware to 3.6 per cent in North Carolina.[1] Even today, in rural districts of the West and South, interest rates on bank loans to farmers (all additional charges included) often amount to 12 and even 15 per cent. This places a heavy burden on the agricultural industry which is the more severely felt since agriculture has so much slower turn-over of the capital invested than manufacture or commerce.

Interest charges are still higher when the credit is obtained not from banks but from merchants and landlords. Fortunately, such sources of credit are comparatively rare in the farming districts of the North and West, but it is an important type of farm credit in the South. A few years ago in North Carolina 92 per cent of the short-time and intermediate credit used by farmers came from merchants or landlords.[2] Conditions in other Southern states are similar and have changed but little since 1922 when these data were gathered.

The cost of credit obtained from merchant and landlord is exceedingly high. During the year 1921 the average cost of merchant credit in selected areas of North Carolina was 22.3 per cent as compared with 24.3 per cent in Georgia (in 1923) and 11.6 per cent in Tennessee.[3] It seems doubtful whether even these figures give a true picture of the situation.

[1] U. S. Department of Agriculture; Bulletin No. 409; "Factors Affecting Interest Rates and Other Charges on Short-Time Farm Loans," 1916, p. 4.

[2] North Carolina Tenancy Commission, Bulletin on Farm Economic and Socia Conditions, 1923, p. 30.

[3] U. S. Department of Agriculture, *Yearbook*, 1924, p. 229.

Merchant credit is, as a rule, extended not in cash but in merchandise which the borrower takes from the store and which is charged to his account. The merchant is then in a position to exact, in the price which he charges, an additional interest rate. There can be no doubt that in very many cases the Southern farmer who buys on credit pays an extremely high price for his goods.

There is, of course, a large element of risk in loans which carry such rates of interest as are cited above, and in some cases a considerable amount of supervision, not only of the loan but also of the productive processes, is necessary. But when all is said it would seem that the interest rate is excessive.

Under the burden of such rates it is almost impossible for a farmer to get free of debt. This will be the more readily appreciated when it is considered that the yearly gross cash income of many a cotton farmer is less than $500. The situation is further aggravated by the fact that credit extended to a farmer by landlord or merchant is, as a rule, secured by a mortgage on the crop of the borrower, and that very often, under the terms of the contract, the debtor has to sell the crop through the landlord or merchant who holds the mortgage. This puts the creditor in a position to exact an additional interest charge when paying the price of the crop to the farmer. In numerous cases the cotton farmer, be he white or colored, fails to receive from his creditor the full market value of his cotton and in this way pays interest a second time.

Federal Intermediate Credit System[1]

Efforts to improve rural credit have frequently been made, but so far they have failed to accomplish the task. The last systematic attempt of this sort was made with the enactment of the Agricultural Credits Act of 1923. That Act established 12 Intermediate Credit Banks, the principal function of which is to issue debentures against agricultural paper of more than 6 months' maturity, and to market these debentures in the larger money centers.

[1] In this section the Commission has drawn heavily on C. L. Benner's "Intermediate Credit System;" Institute of Economics, Investigations in Agricultural Economics, New York, Macmillan Co., 1926.

So-called intermediate credit, which, for the most part, is for production purposes, had heretofore been handled by the country banks or merchants. Country bank loans were, in fact, predominantly of this type. The farmer's note was given for a relatively short period with a tacit understanding that it would be renewed. The banker was, indeed, under no obligation to renew and, in times of credit stringency, sometimes refused to do so. This was hard on the farmer, but on the other hand, the practice of giving short term notes had its advantages in facilitating a proper supervision of the loan. The banking difficulties of 1920 were due to the sudden fall in prices rather than to any credit stringency, and with the rediscount facilities provided by the Federal Reserve System it should be possible for any sizable and reasonably well managed country bank, whether a member of the System or not, to prevent any credit shortage which may occur from pressing with undue severity on its own customers. Rural banks with a volume of business sufficient to reduce overhead costs to a reasonable level are quite capable of taking care of the farmer's intermediate as well as his short term credit requirements, and it would be a mistake, through a rash extension of local agencies of the Intermediate Credit System, to add indiscriminately to the already excessively large number of local banking institutions.

The functions which that System can well perform would seem to be: (1) the linking up of areas deficient in loanable funds with the investment centers of the nation; (2) the provision of production credits through cooperatives in those sections where the lender, frequently a merchant, dominates the production and marketing process; (3) the financing of the livestock industry where large credits running for two or three years are required. The latter credits have in the past come from cattle loan companies which have been subject to little or no regulation as banking institutions. While some have rendered notably good service they are, on the whole, an inefficient lending agency.

The Commission believes that the fundamental idea of the Intermediate Credit System (issue of debentures against farmer's paper) is sound and that the Act of 1923 was a

step in the right direction. On the other hand, it has possibilities of abuse.

Before proceeding to a consideration of the Act it is desirable to indicate the extent to which the Intermediate Credit System is used at present. On April 23, 1927, all the twelve Intermediate Credit Banks had outstanding in

Direct Loans	$29,061,337.77
Rediscounts	48,612,819.61
Total	$77,674,157.38

During the whole period of operation of the Intermediate Credit System, the total sum of direct loans and rediscounts has never at any one time exceeded $100,000,000. This figure is obviously very small when compared with the total needs of the agricultural industry for short-time and intermediate credit which were estimated to be, in 1924–1925, more than $3,250,000,000.[1] In comparison with this figure the sums obtained from the Intermediate Credit System are insignificant, especially when it is remembered that the "direct loans" represent advances made to marketing organizations against commodity security and only the "rediscounts" mean real production credit for the agricultural industry.

Credit from the Intermediate Banks costs the farmers about seven per cent. If this rate is compared with the rates paid in some sections, especially with the high cost of credit from country merchants, a very large demand for loans from the Intermediate Credit Banks would be expected. Up to the present the possibilities of the system have clearly not been very fully exploited.

It does not appear that this is due to defects in the banks themselves. The Federal Reserve System and the Federal Farm Loan System are built up on the regional lines to which the Intermediate Credit Bank System adheres. In both the former systems this works satisfactorily. It seems reasonable to expect that the method of regional banks should work in the Intermediate Credit System as well. The chief defect in the Intermediate Credit System is probably in the agencies

[1] National Industrial Conference Board, "The Agricultural Problem in the United States," p. 123.

provided for securing contact with the farmer. Being regional institutions the twelve Intermediate Credit Banks cannot give credit directly to a farmer but must use local agencies as intermediaries. The Act of 1923 allows national banks, state banks, trust companies, savings institutions, agricultural credit corporations, livestock loan companies, cooperative banks and cooperative credit or marketing associations to act as such local agencies. By an amendment to the Act the so-called national agricultural credit corporations were permitted to rediscount with the Intermediate Credit Banks and now constitute an additional local outlet for the system.

At first glance the list of local agencies seems large. A closer study, however, reveals the fact that most of the local agencies have little or no significance for the system. Of national agricultural credit corporations only one was in existence in the spring of 1927. National agricultural credit corporations were intended, by the Act of 1923, to operate, in the main, as livestock loan companies for the West. Since, however, establishment of livestock loan companies is possible under state laws and since the state laws are, as a rule, much more liberal in their requirements, it is obvious that livestock loan companies will not ordinarily incorporate as national agricultural credit corporations but will take out state charters. It seems doubtful for this and other reasons whether numerous national agricultural credit corporations will be established.

Of the other local agencies of the Intermediate Credit System, the national banks, state banks, trust companies and savings institutions can make direct use of the Intermediate Credit System only to a very limited extent, as the Act places considerable restrictions on these institutions in so far as their activities are related to the Intermediate Credit System. One of these restrictions is the provision in Section 204(b) of the Act that no organization shall, without the approval of the Federal Farm Loan Board, be permitted to rediscount any paper with an Intermediate Credit Bank upon which the original borrower has been charged more than 1½ per cent above the discount rate of the Federal Intermediate Credit Bank. Recently, this margin has been raised

by the Federal Farm Loan Board to 2 per cent on general agricultural paper, while on livestock paper it has for several years been 2½ per cent. But even this permits the country bank to charge only 7 per cent on general agricultural paper where the discount rate is 5 per cent. As a rate of 7 per cent is considerably lower than the rate customary in most agricultural districts, it follows that the country banks will not be inclined to rediscount their paper with an Intermediate Credit Bank but will pass it along to a correspondent bank in a city or to a Federal Reserve Bank, where they are not restricted in the interest rate they may charge their borrowers.

If we now turn to cooperative credit or marketing associations as suitable local agencies of the Intermediate Credit System, we find that cooperative credit associations are, as a rule, without capital stock. Where this is the case they cannot perform the functions we are here considering, since they are of inadequate financial responsibility. The Federal Farm Loan Board has very properly closely restricted all rediscounting by Intermediate Credit Banks for such credit associations, with the result that even the few agricultural credit associations which exist make little use of the system.

Cooperative marketing associations also are normally organized on a non-stock basis. Under the rules of the Federal Farm Loan Board no such cooperative marketing associations may be considered by the Intermediate Credit System as financially responsible to an extent sufficient to justify the privilege of rediscount. Cooperative marketing associations without capital stock can consequently secure funds from the Intermediate Credit Banks only in the form of direct loans secured by specifically pledged assets. This prevents cooperative marketing associations without capital stock from becoming suitable local loaning agencies for the Intermediate Credit System.

There thus remain as local outlets only the agricultural credit corporations and the livestock loan companies.

Agricultural Credit Corporations

The following discussion refers only to agricultural credit corporations established under state laws. They should be sharply distinguished from the national corporations men-

tioned above and regulated in detail in Title II of the Agricultural Credits Act of 1923.

The agricultural credit corporation here under discussion, although organized and operated under state laws, was brought into existence for the first time by the Federal Agricultural Credits Act of 1923. This Act does not define what constitutes such an agricultural credit corporation, but only mentions it as one of the institutions from which the Intermediate Credit Banks may purchase, or for which they may rediscount, agricultural paper, and prescribes that an Intermediate Credit Bank shall not rediscount for an agricultural credit corporation if the aggregate liability of the corporation exceeds ten times the paid-in and unimpaired capital and surplus. From this it follows that each agricultural credit corporation must have paid-in capital stock. The Federal Farm Loan Board has ruled that no rediscounts shall be accepted from any agricultural credit corporation which has not a paid-in and unimpaired capital of at least $10,000.

Aside from these prescriptions the character of agricultural credit corporations is decided almost entirely by the legislation of the State and the economic requirements of the district in which they operate. The total number of agricultural credit corporations which were in active operation on December 1, 1926, was a little over 200. During the year 1926 about 100 agricultural credit corporations went into liquidation or became inactive, but most of these had originally been set up by rural banks for emergency purposes in order to rid the portfolios of the sponsor banks of illiquid paper.

Agricultural credit corporations may be established by farmers themselves. Any group of farmers may come together, raise $10,000, and form such a corporation for the purpose of making loans to the stockholders and other farmers. Several such independent agricultural credit corporations have been established. The Federal Farm Loan Board, however, has discouraged the formation of such organizations by the farmers as it considers a credit corporation with only $10,000 capital too small to be efficiently operated as an independent lending agency. For this reason, and because only in exceptional cases have farmers sufficient liquid

capital for the launching of a corporation, the number of such independent agricultural credit corporations has so far been very small.

There is certainly grave danger of irresponsibility on the part of these corporations, especially as they are in a position to secure additional capital by using for this purpose part of the proceeds of the loans received from the Intermediate Credit Bank. The necessity for caution on the part of the latter institution is, therefore, obvious. But it would seem desirable, nevertheless, to keep this avenue of credit open to farmers who have built up a reputation for a prompt meeting of their obligations.

Most agricultural credit corporations have been established as subsidiaries of some other organization, such as a bank or a cooperative marketing association, or of business interests of various types. By setting up these corporations, banks can secure the privilege of rediscount with the Intermediate Credit System without subjecting themselves to the restrictions which apply when these rediscounts are made direct. This is, however, of no great advantage to most banks since they have other rediscount facilities.

Cooperative marketing associations, on the other hand, can very advantageously utilize agricultural credit corporations for extending production credit to their members. It is not surprising, therefore, that during the last few years, in nearly all parts of the country and for a wide variety of commodities, the cooperatives should have set up agricultural credit corporations. But they have not established as many of these corporations as the unsatisfactory credit conditions prevailing in many rural districts require.

The lack of sufficient capital for establishing the corporations, together with a certain inertia, seems to be the chief reason why the cooperatives have made such limited use of agricultural credit corporations and why the whole machinery of the Intermediate Credit System has at present an aspect of futility.

This lack of capital could seemingly be supplied from private sources if the cooperative shows that it is capably and responsibly managed. As will presently appear, the security which can be furnished is good. The cooperatives

should therefore seek to enlist private capital and vigorously push the establishment of credit corporations in sections where credit conditions are bad. The Intermediate Credit System would then provide all the requisites of sound production credit at low rates. The borrowers can furnish security to the credit corporation through crop liens and none of the objections which may be urged against the crop lien system when the credit is supplied by merchants or even local banks, applies when the credit is furnished by a cooperative through its own agricultural credit corporation. Armed with these crop liens, the corporation can offer good security to the Intermediate Credit Bank as a basis for rediscount, and the Intermediate Credit Bank, through the sale of its debentures (for which there is a ready market at low rates), can obtain from appropriate sources all the capital it needs. The agricultural credit corporation is assured of the soundness of its loan as the marketing of the products is handled through the cooperative, and the cooperative is assured that its members will not violate their contract for the delivery of their crop as a result of being forced to turn it over to the private holders of crop liens. This would seem to provide excellent security all round.

The possibilities offered by agricultural credit corporations are evidenced by the fact that the private trade in farm products is beginning to set up such corporations. Production loans granted by credit corporations which are under the control of a private commission house usually contain the stipulation that the crop must be marketed through the commission house in question. The agricultural credit corporation is, for cooperatives as well as for the private commission trade, a means for obtaining greater volume of business. As both cooperatives and private trade are anxious to expand their volume of business, they seem likely to vie with one another in setting up agricultural credit corporations.

This development is likely to have a considerable influence on rural credit in general. Such competition will probably make it possible for any responsible farmer to obtain money for production purposes at lower rates of interest. As the commercial banks in rural districts will have to stand the

competition of the agricultural credit corporations, it is to be expected that the present high interest rates charged by rural banks and country merchants will suffer reduction. This lower interest rate for bank loans will in turn probably result in a very noticeable reduction in the number of rural banks. If, as has already been alleged, many country districts are greatly overbanked, this will be, on the whole, a consummation by no means undesirable. It is certain that at present many of the small rural banks can cover their overhead expenses only by charging high interest rates. Hence, it must be expected that as soon as their real, as contrasted with their nominal, interest rates are forced down, a large number of these small rural banks will be forced to go out of business. A desirable consolidation of many rural banks will be a further probable result.

The Report of the Federal Farm Loan Board for 1925 stated that "the organization of new agricultural credit corporations had not been encouraged where established agencies were able and willing to serve the farmer and stockman in accordance with their needs and at reasonable rates." Such a policy is sound in principle, but in many rural districts the rates now charged by established agencies are too high, so that even under the policy of the Board a large field for the establishment of agricultural credit corporations exists, and has not been fully exploited. The worst conditions exist where production credit is in the hands not of banks but of merchants, and it is with merchants that credit corporations would most strongly compete. Nevertheless, in many rural districts, some competition with the commercial banks is desirable if low interest rates and efficient service are to be secured. The establishment of agricultural credit corporations by cooperative organizations and commission merchants would supply such competition in the desirable degree and this competition should insure the gradual elimination of unnecessary and incompetently managed banks. They will go out not as bankrupt institutions loaded up with illiquid or worthless paper, but simply because they cannot make profits. Well-managed banks with a volume of business sufficient to enable them to carry on their operations at reasonable rates of interest should

not be hampered by the establishment of agricultural credit corporations, but banks which are unable to meet reasonable requirements should be supplemented and gradually superseded by well-managed agricultural credit corporations.

As to the size of such corporations, conditions at present vary greatly. Some of the corporations have only the minimum capital of $10,000 and can, therefore, work only in a small local area, while others cover as much as a State. In the latter case the corporation, of course, is not in a position to deal directly with the borrowing farmer but must use local banks or cooperative credit associations as intermediaries. A capitalization of $10,000 only is as objectionable in a credit corporation as in a bank. State-wide organization, on the other hand, has the disadvantage of requiring intermediaries for connecting the farmer and the credit corporation. Other reasons may in some cases outbalance this disadvantage. But it seems that, in general, agricultural credit corporations of a local character, though of a fairly large capitalization, are most desirable.

Two considerations should decide the size. The credit corporation must be large enough to permit of efficient management and safety of operation, and it should be small enough to make possible permanent close touch with the borrowing farmers. The happy medium will perhaps be obtained if each corporation has a capital of not less than $50,000 and covers an area of, say, one-half or one-third of a county. A capitalization of not less than $50,000 seems necessary. The resulting loaning capacity of $500,000 can probably be utilized fully only in a district which covers at least one-third of a fairly large county. Such a district, on the other hand, seems, in this age of automobiles, small enough to make possible close touch with the borrowing farmers. The capitalization and the areas here suggested are, of course, only approximations. Local conditions will frequently require variations from these standards.

It would seem wise to permit agricultural credit corporations to charge the borrowing farmers a rate so much above the rediscount rate of the Intermediate Credit Banks as would not only cover expenses but would permit the accumulation of a reserve and surplus to be applied by the

corporations to redemption of all stock not in the hands of farmers or cooperatives. The Intermediate Credit Banks, on their part, should be permitted to charge a rediscount rate sufficiently above the interest rate on their debentures to meet expenses and to provide for the gradual retirement of the government from the ownership of the stock of these banks. At present they are limited to a rediscount rate of not more than 1% above the interest rate on their debentures.

It does not seem advisable that the capital stock of the Intermediate Credit Banks should be permanently owned by the Federal government, thus making the whole Intermediate Credit System a government enterprise. Each of the twelve banks has at present a capital of $2,000,000 which is exclusively subscribed by the Treasury Department. The banks are entitled to call for further capital subscriptions from the Federal government until each bank has a capital of $5,000,000. This means that the Federal government is conducting a permanent banking business for the agricultural industry, a policy which, in the opinion of the Commission, is in conflict with a sound conception of the duties of the Federal government. Some provision, therefore, seems necessary for the gradual retirement of the government stock and its absorption in some way or other by the beneficiaries of the system, so that the banks could be changed into farmers' mutual organizations under government supervision.[1]

The Agricultural Credits Act provided that one-half the net earnings of the Federal Intermediate Credit Banks shall be turned over to the Treasury Department, while the other half shall be carried to reserve. In the first 3½ years of their operation the banks were able to pay into the treasury a total of $1,602,787.43. This was an inadequate return on the government's investment, but with a further development of the business of the banks, and after accumulation of the surplus, the investment should prove fairly profitable. It would seem desirable that profits, instead of being turned over to the government, should be used in buying up the government's interest. This might be accelerated by the issue of new stock to non-governmental holders to replace that of the government.

In establishing the Federal Farm Loan System a method similar to that here proposed was used. The Federal Land Banks were capitalized, in the first instance, by the Federal government. But provision was made for the retirement of government capital by the participation of borrowing farmers. The original capital of the Federal Land Banks was $9,000,000, practically all subscribed by the government. Farmers' participation has increased that capital to above $54,000,000, while the proportionate retirement has reduced the government interest to about $1,000,000. This was sound practice and might well be repeated in the case of the Intermediate Credit Banks.

[1]See an address by C. E. Lobdell in *Staple Cotton Review*, July, 1926, pp. 6–18.

CHAPTER XI

TRANSPORTATION AND DISTRIBUTION

AS a means of lowering costs in such a way as would not automatically increase the volume of production, attention has been turned to the possibility of securing reductions in the cost of transportation and distribution of agricultural commodities.

Freight Rates

Existing freight charges press heavily on districts remote from markets[1] and on the producers of such agricultural commodities as come in freight classifications subject to higher rates. It is generally agreed that the railroads are giving greatly improved service on agricultural as on all other commodities, and they are, of course, entitled to rates sufficient to cover their total costs. Unless reasonable profits can be earned, the service will suffer; and prompt and efficient service is, if anything, more important to agriculture than rate reductions. The roads which move agricultural commodities in the greatest volume are by no means the most prosperous, and even where one or another of these roads would reduce rates, permission to do so is sometimes refused as being contrary to the general interest. The relatively unprosperous condition of the agricultural roads would go to show that, from the point of view of total costs, the existing rates on agricultural commodities are not unduly high.

A different division of rates on through shipments appears to be a possible remedy. It is certain that Central and Southern agriculture (and these are the great agricultural regions of the country) could immediately be given substantial aid if freight rates could be reduced, since no matter

[1] Except where the opening of the Panama Canal has made it possible to use sea routes.

who finally pays freight charges there can be no doubt that changes in these rates affect the producer immediately. The first impact of an increase is on him, and similarly the benefit of a decrease would in the first instance accrue to him, whatever might be the eventual result.

The desirability of some readjustment in the rate structure to this end has been recognized in a joint resolution of Congress, approved January 30, 1925, usually referred to as the Hoch-Smith resolution and addressed to the Interstate Commerce Commission. This resolution reads, in part, as follows:

> "In view of the existing depression in agriculture, the commission is hereby directed to effect with the least practicable delay such lawful changes in the rate structure of the country as will promote the freedom of movement by common carriers of the products of agriculture affected by that depression, including livestock, at the lowest possible lawful rates compatible with the maintenance of adequate transportation service: *Provided*, That no investigation or proceeding resulting from the adoption of this resolution shall be permitted to delay the decision of cases now pending before the commission involving rates on products of agriculture, and that such cases shall be decided in accordance with this resolution."

This Commission feels that it is beyond its province to do more than commend the spirit of the Hoch-Smith resolution and to urge expedition in putting into effect any reductions of the rates on agricultural commodities which may prove feasible and consistent with it.

To this end the railroads should, with an enlightened view of their own interest, cooperate in the fullest possible manner. There is little, if any, evidence that they are not doing so. It does not at first sight appear that freight rates on agricultural commodities can be generally lowered without arbitrary reduction of the revenues of certain roads which even now are failing to earn a fair return. If this is so, such reductions would mean poorer service and would probably in this way do more harm than good. Whether it is so or not, can only be left to the Interstate Commerce Commission to determine, after which action along the lines suggested by the Hoch-Smith resolution can be taken.

It should be noted that while transportation costs are of great importance to certain producers the total freight

charges affecting farmers on both outgoing and incoming commodities are estimated to amount to not more than 6 per cent of the gross cash income of the industry.[1] Any practicable reductions of freight rates would, therefore, affect sectional rather than national agricultural prosperity. Further than this, unless costs of railroad service can be materially cut, and of this there is no strong promise, freight rates must be almost entirely dependent on wages paid by the roads. The presence of two independent rate fixing bodies, the one dealing with freight rates and the other with wages, divides responsibility and leaves little discretion to the former of the two groups but to grant an upward revision of freight rates when wages are increased. The power of the Interstate Commerce Commission over freight rates is thus by no means absolute, while the railroads have almost no power at all.

Waterway Development

The cost of transportation could further be reduced and a general advantage be gained for agriculture by greater development of our waterways. The large rivers and lakes of this country are among the most important resources of the nation and have up to now been utilized only to a limited extent. Large-scale efforts for developing these resources would, without doubt, add to the economic well-being not only of the farmers but of the nation as a whole. Because of its interrelation with the development of hydroelectric energy, with reclamation and with flood control, however, the problem is so complex that a full discussion is beyond the scope of this report.

It must suffice to call attention to the efforts to improve the waterway connections of the great agricultural section in the North Central part of the country. It is certain that this section has always been under natural transportation disadvantages as it is separated from its principal markets in the eastern parts of the United States and in Europe by a long inland route. The building of the Panama Canal artificially created another transportation handicap for this

[1] National Industrial Conference Board, "The Agricultural Problem in the United States," p. 128.

section by giving the two coasts the cheap water connection. The full effect of these handicaps became noticeable only after the great increases in railroad freight rates following the War. Development of the principal inland waterways of this continent would give the central section a much needed compensation for all of these handicaps and is urgently to be desired. This Commission therefore endorses such development wherever the cost is in proper relation to the advantages to be obtained from the undertaking.

Two water systems are available for giving the North Central region an outlet to the sea. The one is the Mississippi and its tributaries, the other the Great Lakes in connection with either the St. Lawrence or the Hudson River. In all probability, development of both waterway systems is sound, as they are more complementary than competitive. Each would serve different purposes. The Great Lakes-St. Lawrence (or Hudson) route would represent a west-east route, serving in the main the northern tier of states, while the Mississippi would principally be a north-south route, serving all the territory which the river touches. By utilizing the Missouri and Ohio, the Mississippi system could be built up into another west-east route located considerably to the south of the Great Lakes route and therefore hardly in competition with it. It should be kept in mind that all of these routes are already more or less developed and that at present the problem merely is which of them shall be deepened and for what size of ships shall they be made accessible.

The Mississippi River is navigable for vessels with a depth of nine feet up to the mouth of the Ohio and Congress has authorized expenditures for creating a nine-foot channel up to the mouth of the Illinois River and in the lower reaches of this waterway. Whether it will be possible to connect the Illinois River with Lake Michigan by a nine-foot channel depends on the possibility of diverting sufficient water from this lake without unduly lowering its levels. The problem is now in the hands of the Supreme Court of the United States. Whether and to what an extent it is advisable to deepen the Mississippi between the mouth of the Illinois and the Twin Cities or to increase the depth beyond nine feet

below the mouth of the Illinois River are questions into which it is not necessary to enter in this report.

The freight which would move on the Mississippi system would comprise, among many other articles, grain from the Central Northwest and from the Plains section around Kansas, meat products from the Corn Belt and coal from the upper Ohio region or Illinois, all moving down the river, while in the opposite direction much sugar from Louisiana and Cuba would move for consumption in the interior. It should also be kept in mind that our export trade with the countries around the Gulf of Mexico and the Carribean Sea is rapidly developing. Last year that region purchased United States products valued at $603,000,000, or nearly 13 per cent of American exports, compared with an annual average of 9 per cent of exports thirteen years ago. It is likely that for this export trade an efficient waterway from the Twin Cities, Chicago and Pittsburgh down to New Orleans would prove of great value. Another advantage of the Mississippi route is that it could probably be developed to a satisfactory degree of efficiency within a few years and with comparatively little cost.

The development of the Mississippi River waterway is intimately connected with the problem of flood control. The tragic Mississippi flood of the spring of this year has done infinite harm to a large part of our farm population. Relief from this disaster forms, therefore, an important part of the general agricultural problem. Two objectives are involved in the task: first, the economic rehabilitation of the flooded areas, and second, permanent protection of the region from recurrence of such a disaster. The first task is largely a credit problem. The victims have to be given enough funds for replacing their livestock and putting another crop into the ground, and their liabilities, especially their mortgages, have to be extended until the new crop is marketed. It seems that, by the gratifying cooperation between Federal, state, and banking institutions which has characterized the flood relief activities, this immediate credit problem is well on the way to solution.

Of far greater importance is the prevention of a recurrence of the disaster. A broad and permanent plan for safeguard-

ing the valley must be evolved. The technical side of this question goes beyond the competency of this Commission. It is the task of engineers to say whether protection can best be afforded by broadening the levees and increasing their height, by erecting spillways near the Gulf, by reservoirs in the upper reaches or by reforestation. The probability is that a combination of several of these methods will be recommended, and it is certain that the costs will amount to hundreds of millions of dollars. As to the manner of raising these funds, this Commission recommends that the Federal government assume the largest share, if not the whole. It is certain that a disaster of this type reacts upon the nation as a whole and is felt, though in a varying degree, by every businessman, worker or investor. It seems, therefore, that the expense of preventing such a disaster should in the main be borne by all the taxpayers. Furthermore, such a method would distribute part of the wealth of this country in the form of wages among the victims of the disaster and would in this way probably contribute noticeably toward rehabilitating the economic position of this population group. The Commission does not go so far as to suggest that the protected lands shall be freed from all contributions to the cost of this work, but they should be taxed only as little as is consistent with sound policy. And the whole construction work should be undertaken, if possible, with the purpose in mind not only of protecting the district from a new flood but also of making the Mississippi and its tributaries one of the great waterways of this country.

The other waterway for connecting the central region with the sea is the Great Lakes-to-Ocean route. The technical and economic aspects of this route have been dealt with thoroughly by several governmental investigations undertaken during the last years. There is practical unanimity about the advisability of making this route a 25-foot waterway giving ocean-going vessels entrance to the Great Lakes, but there is serious dissension as to whether it is preferable to use for this route the St. Lawrence River or the Hudson. In case the St. Lawrence were selected the development work would mostly consist in building short canals around the rapids of this river, while the Hudson route would

require building a rather long canal from Lake Ontario to the Hudson River near Albany. In both cases about 12 years are needed for completing the work. From the point of view of agriculture alone, with which this Commission is concerned, it does not matter much whether the St. Lawrence or the Hudson is used, but the development of one of the two routes would clearly be of advantage for certain agricultural areas.

On the other hand, the Commission feels that the beneficial effects of the Great Lakes-to-Ocean waterway on the agricultural industry should not be overestimated. The principal beneficiaries of the route would be a very small class of wheat farmers in the Northwest. Our wheat exports, which are expected to provide a considerable part of the outbound traffic passing over the waterway, are tending more and more to originate in the territory around Kansas and in the North Pacific States. The new waterway could not, of course, affect the North Pacific exports which go, and will continue to go, via Pacific Coast ports, and it would be of relatively slight, if any, benefit to the exporters in the Kansas region who now send their wheat in the main via Gulf ports. Thus chiefly the producers of durum wheat in the Central Northwest would be benefited. For most classes of spring wheat we are on an import basis, so that these farmers would not be benefited directly by the route. Furthermore, our exports of durum wheat are on an average less than 60,000,000 bushels a year, while the Canadian wheat exports, the bulk of which would move over the route, amount to about 300,000,000 bushels a year and are rapidly increasing. It seems therefore that the Canadian farmers are much more likely to benefit from the route than United States farmers.

Furthermore, it is by no means certain that the reduction in freight costs which the waterway promises to bring would redound to the benefit of the shippers, although this is ordinarily assumed. If we take wheat, for instance, it is quite within the bounds of possibility that the saving in transportation costs would be reflected in a decline in the Liverpool price and would thus inure to the benefit of English and other European consumers. Prices in this country would tend to be lower than English prices by a less amount than is

ordinarily the case at present, but whether they would be higher than if the waterway were not built, is another question. This depends on how the supply of wheat in Liverpool would be affected by the lower freight rates which the waterway is expected to provide. If these lower rates should lead to an expansion of output and export in either this country or Canada, and if such expansion of exports should not be counteracted by a contraction of exports from other countries, prices in Liverpool would tend to fall, and they may fall eventually by the full amount of any reduction in freight rates that the waterway may effect. The probability, however, is that prices in Liverpool would be lowered by an amount somewhat less than the reduction in freight rates, since any expansion of production which occurs would probably be on somewhat less fertile or more remote areas, where production costs would be higher than on areas from which the supply now comes. In this case the gain from the lower rates would be divided between consumers and the growers in the present production areas. The same principles apply to exports other than wheat. However the saving in transport charges may be divided, a competitive advantage of the full amount by which costs would be lowered would accrue to the users of the waterway. This would certainly favor exports. On imports, domestic consumers are likely to secure the bulk of such advantage as the waterway would afford.

Finally, the fact that the waterway would be available less than two-thirds of the year means that, unless the flow of total traffic by rail and Canal could be distributed so as to show a high degree of concentration in the ice-free period, a duplication of transport facilities would be necessary, since the railroads would have to be equipped to carry the peak load of winter traffic and in summer would suffer high costs from the inadequate use of this equipment. This may lead to higher charges on all freight carried by rail, or perhaps only on such freight as does not meet competition from the Canal. It should be said, however, that the very great volume of freight now carried on the Great Lakes does not seem in any great degree to have had the effect here indicated, and it is by no means impossible that the building of the

Canal would make unnecessary certain additions to our rail facilities which would otherwise be required.

While the facts here adduced should be taken into consideration, they are qualifications only and are stated merely to forestall undue expectations of benefit. A very real net gain to both producers and consumers seems probable from the contruction of the waterway and this gain would fall in greatest measure to the agricultural regions of the Central West.

Distribution Costs

The percentage spread between prices on the farm and prices at retail has increased in recent years, but this seems entirely due to the general causes which have prevented wages from falling as rapidly as the prices of primary commodities. It is not only on agricultural products that the cost of distribution is high; in many manufactured products the cost of distribution is greater than that of production, in some cases many times as great, and probably on the whole larger than for most agricultural commodities, with the possible exception of perishables produced at a great distance from the consuming market. Every effort should be made to improve the existing system of distribution and to narrow the middleman's or marketing margin, but a caution should be entered against the prevailing tendency to assume that there are in this field great gains to be made. There is little evidence to show that the high cost of distribution is caused by excessive profits of middlemen. Thus the U. S. Department of Agriculture says:[1] "The net profit taken by distributing agencies is insignificant when considered as part of the total spread. It rarely runs over five per cent of the consumer's price. Generally it is much less than five per cent." Most distributing costs are payments for labor essential to the distributing process, and a very large proportion (amounting approximately to one-third of the retail price) are incurred after the product is in the hands of the retailer.

The cost of delivering the great staples of agriculture to the processor or manufacturer is low; it is on products such as fruit and vegetables that the spread is great, and it is here

[1] *Yearbook*, 1924, p. 45.

that there are certain eliminable wastes. Possibilities of improvement would seem to lie along the following lines:

(1) *A further development of specialized producing areas*

This should not be permitted to defeat the measure of diversification which is desirable for the farmer, but it is clear that the gathering of shipments from many isolated growers is more expensive than the assembling of the product from a region of specialized production. If the isolated grower is in direct competition with the product of such a region, the whole extra cost of gathering his product will fall on him. Shipping point inspection, now carried on by several of the States in cooperation with the U. S. Department of Agriculture, is greatly facilitated by regional specialization. State inspectors examine shipments at the rail point of origin and issue a certificate on the grade and condition of the product. This certificate is receivable in both State and Federal courts as prima facie evidence and gives protection to the shipper against unjustified rejections in terminal markets. It is of service also in the prosecution of claims against the railroad for loss or damage in transit.

(2) *Reduction of spoilage*

"Recent studies in eight hundred units of one of the large chain store systems revealed that the loss through spoilage and deterioration for melons, peaches, tomatoes, cucumbers and leaf vegetables amounted in three years to $675,000 or 13⁹⁄₁₀% of the total value of these commodities. Analysis of the seasonal variation in this loss (of $675,000) shows that it reaches a maximum in the fall months of September, October and November. One would expect that this maximum should be reached in the summer when the temperature is highest and spoilage most rapid, but the explanation offered is that the method of packing and the quality of the products from local farms, which predominate at this time, is responsible for the loss. Tomatoes are packed in open crates with no protection from the rubbing of one against the other and so on. Evidently some reduction of this loss

may be brought about by more careful grading and packing by producers and shippers."[1]

(3) *Closer contact of producers with retailers and a study of their needs*

An instance will make the point clear. The Commission is informed that a large grocery chain has recently begun to expand its purchases of garden truck at shipping point and has made arrangements with the producing organizations to pack their commodities in exactly the shape it desires for sale through its retail units. In one case three times as many containers as had previously been used were necessary, but this prevented expensive repacking, effected a 50% saving in trucking costs, and cut the loss through spoilage.

(4) *Cooperative organization*

All the suggestions so far made require cooperation. A comprehensive marketing organization is of special importance in the distribution of fruits and vegetables. Local gluts frequently occur in these products and their perishable character makes such gluts disastrous. In order that this tendency toward unequal distribution may be eliminated, the selling organization must cover a wide field and have a reliable information bureau. In the absence of a cooperative the best service can probably be rendered by large marketing corporations. Where these exist and perform the functions which a well-managed cooperative would undertake, they may render just as satisfactory service as a cooperative could.

(5) *Improvements in city terminal facilities*

The location of the present rail and water terminals and of the wholesale markets for farm produce was in most instances determined by conditions which prevailed perhaps a century or more ago. Meanwhile conditions have changed tremendously and in many cases these markets are entirely unsuited to present needs. They are disadvantageously

[1] "Lowering City Distribution Costs for Farm Products," paper read at the Annual Meeting of the National Association of Marketing Officials, November 29, 1926, by W. P. Hedden, Chief Analyst, Port of New York Authority, pp. 4 and 5.

located, inadequately equipped, and cramped for space. Shipments frequently have to undergo two or three expensive truckage movements before sale to a jobber is made. Truckmen sometimes spend more than half their time in waiting or in unproductive work. Separate freight terminals for each railroad result in the overtaxing of any given terminal for part of the year, and a use far below capacity for the remainder. The remedy lies in the erection of union freight terminals and well-planned wholesale market centers thoroughly integrated with each other and with the cold storage, warehouse, and produce trade of the city. During recent years several such centers have been established and very considerable savings effected. Certain State governments have been assisting their cities in laying out adequate market facilities and many others could render their citizens useful service by setting up an agency for the purpose of stimulating action in this matter by cities, railroads and trade.

All these improvements will help to reduce the spread between the prices received by the farmer and those paid by the producer and, though they fully apply only to a limited number of farmers and affect only a small part of the cost of distribution, they are none the less worthy of an energetic attempt toward their realization.

CHAPTER XII

RESEARCH AND EDUCATION

The Need for Agricultural Research

THE organization of agriculture in small and widely separated units makes it very difficult for the industry to carry on its own research and educational activities, but the need for such work can hardly be overemphasized. It is, therefore, largely incumbent upon governmental agencies, with the aid of private agencies directly interested, to carry on the research and educational work needed in agriculture. This duty is realized by the Federal as well as by State governments and valuable service is being performed by them, but, in the opinion of this Commission, far more ought to be undertaken in this direction.

Accomplishment of the task is in the main dependent on sufficient appropriations. Governmental expenditures for research work are of comparatively recent origin, which is probably the principal reason why even in the wealthy United States they are so slowly forthcoming. The U. S. Department of Agriculture is at present spending about $10,000,000 every year for all of its various research activities in the country as a whole. When it is considered that some of the large manufacturing corporations of this country are each individually spending almost as much for scientific or development work, the $10,000,000 spent by the Federal Government for all of the agricultural industry of the United States appears small. The same is even more true of the appropriations of the States for this purpose. Greater expenditures would in all probability pay for themselves many times over. If general scientific research is properly coordinated to avoid overlapping, there is little danger of overexpenditure. For instance, the advances recently made in Germany in the production and use of commercial fertilizers, advances which resulted almost wholly from research

work, are said to warrant the expectation that that country may be agriculturally self-sufficient in the near future. Results of similar significance are possible in the United States, as well. Practically every one of the numerous spheres of agriculture offers a fertile field for research work. There is urgent need for more extensive study of the problem of crop pests and plant diseases, of the development of improved methods of breeding and feeding livestock, and of the possible applications of industrial methods and of electricity to agriculture.

The necessity of more thorough research in the field of land utilization with the aim of classifying all lands in the country was emphasized in Chapter VIII of this report. One of the principal tasks of the "National Agricultural Foundation" there proposed would be to undertake this and other research, and while it is desirable, for reasons already stated, that this important work be done by an independent agency, the Federal and State Governments can be of great aid in it.

The Society of American Foresters is advocating the establishment of an endowed forest research institution for supplementing the research work of Federal, State and private forestry agencies. The idea is apparently sound since forest growth and forest utilization are at present questions of prime importance. The forest research institution would in certain respects cover the same field as the "National Agricultural Foundation" in its land utilization activities. Both agencies should therefore be thoroughly coordinated, and possibly they can be united in one organization.

Industrial Uses of Farm Products

Another timely and important field in which the "National Agricultural Foundation" would probably be of great assistance for agriculture is that of research into the industrial utilization of farm products. This is a matter of great interest not only to agriculture, but to industry as well. Few things would help agriculture more than a development of the demand for agricultural products from industrial sources. Not only would the growth of this demand mitigate the present difficulties of adjustment, but if a larger share of agricultural production could be devoted to the providing

of raw materials for manufacturing industry, the whole of agriculture would be put on a more stable basis. It is in such lines that elasticity of demand is relatively great and the opening up of outlets of this sort would relieve agriculture of that relative fixity of demand which now so greatly hampers it.

At present the most promising field seems to be a development of the uses for cellulose obtained from the stalks of corn (sorghum) and sugar cane. We are in this country face to face with a timber shortage and already receive a large part of our pulp requirements from Canada. But is is certain that pulp can be obtained not only from wood but as well from the stalks of corn and similar plants and even from straw. In fact, for certain uses, such as the manufacture of artificial silk, the pulp derived from cornstalks is said to be superior to wood pulp. Furthermore, the cost of this pulp from corn or sugar cane stalks is said to be considerably less than the cost of wood pulp. The reason for the lower cost is to be found largely in the fact that today the stalks are considered useless and are therefore very cheap. But it is well known that many a commodity which a few decades ago was considered useless and was thrown away, now plays an important part in trade and sells for high prices. It is likely that the same will be the case with the stalks of corn and sugar cane and with a number of other agricultural products and that in the future the utilization of these so-called "waste" products will net our farmers large sums. Efforts towards utilization of the stalks of corn and sugar cane for the manufacture of pulp and cellulose are under way in the Corn Belt and in the sugar cane districts of the South. The intention is at present to use the pulp in the main for artificial silk. But it can be used also for lumber substitutes, especially for insulating lumber, and for paper.

Even from corn cobs and oat hulls a wide variety of products can now be obtained, many of which, for instance the important chemical compound furfural, are certain to have commercial possibilities. It has even been predicted, although this seems premature, that cellulose derivatives would sooner or later supplant many of the products now gained from coal-tar.

Corn-stalk utilization is particularly important at the present time when the corn borer is rapidly expanding its sphere, since the successful combating of this pest requires complete removal of the stalks from the fields, a task which would obviously be made easier if in each rural district means of utilizing the stalks could be provided.

Another potential source of income for farmers is the manufacture of industrial alcohol from grains, although this field is probably apt to be overestimated. Hardly more than 30,000,000 or 40,000,000 bushels of grains would be used annually even if all the industrial alcohol consumed in this country would be made from grains, while our production of corn alone averages about 2,850,000,000 bushels every year. Furthermore, it is very likely that in the future industrial alcohol will be in the main obtained from coal. This fact is likely to preclude also the large-scale utilization of alcohol derived from plants for fuel of combustion motors. It is often asserted that in a few decades when our oil resources will approach exhaustion a large demand for alcohol derived from plants will arise in order to supply the innumerable combustion motors in automobiles and elsewhere with fuel. But it seems likely that after exhaustion of our oil resources coal will be used for obtaining gasoline, and this synthetic product will probably be so cheap as to make competition impossible for alcohol derived from plants.

Nevertheless, there are probably numerous other fields in which derivatives from plants can be made useful. We are rapidly entering what has been called the "synthetic age" and agricultural products promise to be important raw materials for manufacturing chemists. But the possibilities of such utilization of farm products are naturally dependent on extended research work. It is gratifying to see that of late funds for such work have been forthcoming from various sources. For instance, there is available this year a small appropriation of the Federal Government for an investigation into the important subject of fibrous materials in industry. But the field to be covered by studies is infinite and the Commission urgently recommends, therefore, liberal appropriations for such research work by Congress, State legislatures, and private organizations.

Extension of Economic Services

Of perhaps more general importance is research into the economic conditions of agriculture. Our society has gradually grown so complex that the solution of most of its problems, even of problems which at first glance appear very simple, can be found only by thorough investigation, and activities of the individual producer which are not guided by such investigations often turn out to be mistaken. All lines of manufacture and commerce are aware of this fact and maintain research or trade organizations of various kinds for making these investigations and for transmitting the results to the individual enterprises. As agriculture with its millions of small-scale producing units can maintain such organizations for economic research and advice only with great difficulty, the task devolves in the main upon Federal and State governments.

In spite of the great amount of valuable work that is being done by Federal and State agencies in this field, it is certain that much more is necessary. And the Commission recommends, therefore, a considerable extension of the work of this type. The recommendation means in the main larger appropriations by Congress and State legislatures. Part of the requirements in this field will be covered by the establishment of the Federal Farm Board which was discussed in Chapter V of this report. One of the principal tasks of this agency would be to collect data as to the economic conditions of the various branches of agriculture in this country and abroad, to draw inferences from these data and to make this material available to all farmers in the United States.

The value of work of this type and of all research activities with respect to agricultural methods is largely dependent on getting such information "over" to the individual farmers in such a manner that it can effectively influence them in their work. This problem emphasizes the great importance of the agricultural extension services. Everywhere the Commission was informed of the value of the work of county agents, varying, of course, with the caliber of the individual agent but, in general, of immense usefulness. The chief criticism of the county agents was that there were far too

few of them. An extension of their number is obviously desirable. It can probably best be obtained by placing community agents in the different farm communities of a county in the manner outlined in Chapter VIII of this report. At that place attention was called to the advisability of paying sufficient salaries to county and community agents as well as to all other agricultural extension and research workers, since only by this means can a sufficient number of capable men be obtained.

Great help in transmitting to the individual farmers the findings of the economic and of other research work can further be rendered by cooperative associations, especially by the officers of local units. Cooperatives can in addition themselves undertake a noteworthy part of the agricultural research work that is required, especially in the field of marketing of farm products. Some cooperatives are doing excellent work in this field which should be emulated by more of the associations.

Education of the Farm Youth

It is certain that the task of transmitting to the rank and file of the farmers the results of agricultural research work must largely be attacked through improvements in education of the rural youth. The instruction in farm methods and management given to boys and girls in rural communities through the various corn, hog, or similar clubs under the direction of county agents or successful farmers is, therefore, worthy of the highest commendation and as these adolescents grow to manhood will make itself felt in increased agricultural efficiency. The rural schools can also be of great help in transmitting better methods to our future farmers. In the opinion of the Commission, this phase of rural education has not yet received the necessary attention. At present, the rural schools consider it their main task to dispense a type of education which seems ill-suited to the probable needs of the pupils. Little consideration is given to the fundamentals of agriculture and the curriculum seems to be shaped almost completely to meet the requirements necessary for entrance into high school or college. It is not sug-

gested that the rural school become a training ground solely for the vocation of agriculture, but the fact remains that most of the children who stay in the locality will pursue that calling, and it therefore seems that a curriculum which does not completely ignore this fact might be more beneficial than that now normally pursued.

The prosperity of the American farmer depends upon his efficiency relative to foreign competitors. To attain and preserve an American standard of living he must constantly keep several steps in advance of those competitors. This can be adequately done only through education. A well-conceived program of education, moreover, will not only help to provide the means of living well, but will in itself contribute to better living and working conditions. Its benefits will not be rapidly attained nor spectacular, but they will work out their results in a thousand devious but effective ways, and education will thus be one of the most important means for improving conditions on our farms and giving American agriculture the standing which it must have if the nation is to maintain its proper place in the progress of mankind.

Above all, the Commission wishes to emphasize the importance of giving to our rural education in large degree a character and a quality which will help to conserve and improve rural life. If we are to preserve some of the fundamental characteristics of farming as a way of life and a noble calling, our farm youth must be brought to a clearer realization of its intangible values and its advantages in contrast to urban activities; and the farmer himself must in larger measure be brought to conceive of his occupation not as a temporary makeshift in which he may well be content to accept lower returns for his labor than his city fellow in the hope of speculative returns on his land values, but as an opportunity for a rich, well-rounded life in which his intelligence and culture and all the resources of community life may find full scope for development.

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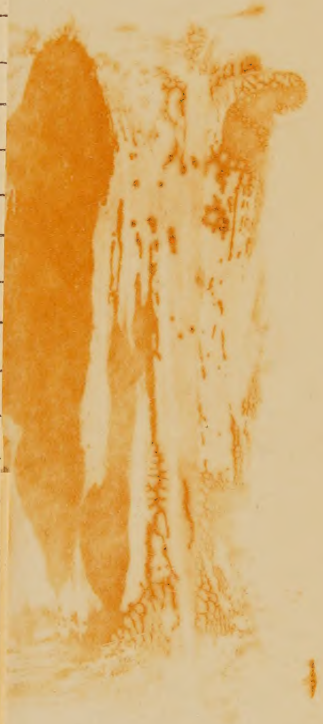

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